The Journal of the
American Medical Association

VOL. XXXIV CHICAGO, ILLINOIS, APRIL 7, 1900. No. 14.

Original Articles.

IAGNOSTIC VALUE OF THE DEEP REFLEXES OF THE LOWER EXTREMITIES.*

BY D. S. FAIRCHILD, M.D.

ivision Surgeon C. & N.-W. Ry. Co.; Special Examining Surgeon C., M & St. P. Ry.; Local Surgeon B., C. R. & N. Ry.
CLINTON, IOWA.

The diagnostic ability of railway surgeons is not in- requently taxed to its utmost in determining the real acts in cases of alleged organic disease of the spinal ord in which paralysis is presented as a symptom. The rms of paralysis complained of are either motor or sen- ory, or both. Spastic forms, with or without trophic onditions, may be left out of consideration for the pres- t at least, as they present features which make them sy of recognition.

In a case of motor or sensory paralysis, or both com- ined, the questions which will enter the mind of the aminer are three in number: 1. Is the paralysis due o an organic change in the anterior or motor side of the inal cord, or both in anterior and posterior sides, or are e lines of communication impaired or destroyed by in- y to, or disease of, the afferent or efferent nerve-fibers, both? 2. Is the paralysis hysterical in character? 3. s the paralysis feigned?

These questions can be correctly answered if the xaminer is familiar with neurophysiology and neuro- athology, and makes the examination with the care hich such cases demand. Without entering into details e may observe that there is, physiologically considered, continuous line between the sensory nerve ends on the e side to the motor end plates in the muscles on the er, which constitutes what is known as the reflex arc, consists of the sensory or afferent nerve-fiber, the cells of the spinal cord and the motor or efferent ve-fiber. If any part of this arc is broken, the reflex nterrupted.

This paper was suggested by a patient who recently me under my observation, and by an article from the h of Dr. Charles K. Mills,[1] on "Some Points of Spe- l Interest in the Study of the Deep Reflexes of the wer Extremities." The patient referred to was a ng, married, Polish woman, who received an injury om being thrown out of a buggy while attempting to s a railroad track. The horse took fright and backed an embankment. The woman walked a short dis- ice to a house, merely with a little assistance, rode neteen miles more that day, twenty the next, and seven third day. She then went to bed and remained there months. After that time she was able to sit up a moments at a time for three months more, when she e up for special examination. There was but little variation in the symptoms, except that the physician in attendance noted an occasional rise of temperature and a considerable variation of pulse, which in general was rapid.

At the time of examination, the temperature was 99.6, pulse 116. The next day the temperature was 98.5 and the pulse 80. She alleged complete motor and sensory paralysis in the left leg, also great pain in the paralyzed one. The area of alleged anesthesia extended from a point over the second lumbar vertebra directly in a line to a point above the superior spinous process of the ilium, then down along the pelvic brim to the symphysis pubis; all points below this line were anesthetic. The tendon reflexes were normal, and also the ankle-clonus on both sides. Measurements showed no difference in the size of the legs, and the electric reactions were the same in both. The muscles were also equally firm in both. As monoplegias the result of trauma are practically unknown, it became interesting to determine, if possible, the pathologic condition. The paralysis was alleged to be complete, including both motion and sensation. If it was due to organic disease, it was assumed that the deep reflexes would have been abolished and certain trophic changes found in the nerves and muscles of the paralyzed limb, which was proved not to be true. It was claimed, by one of the examining physicians, that the injury did not involve the spinal cord, but was a pressure lesion involving the lumbar nerves. Had this been true, and all communication cut off with the spinal cord through this plexus, the tendon reflexes would have been destroyed on account of the involvement of the crural nerves, while the ankle-clonus would have remained present on account of the communication with the spinal cord through the sciatic nerve derived from the sacral plexus. Furthermore, the anesthetic areas and motor losses would have corresponded to the distribution of the nerve-supply derived from the lumbar plexus—the anterior crural nerve—but as the paralysis was equal and complete on the anterior and posterior surfaces of the thigh and the leg, the theory was inconsistent and could not be considered. In addition, on walking, the paralyzed leg did not drag, but was lifted with slow deliberation. We were left to conclude from the facts that the paralysis was hysterical or feigned. We sought for irregular areas of anesthesia and other evidences of hysteria, but these were absent.

The value of the deep reflexes in the diagnosis of organic spinal cord disease is based on the proposition that if the anterior horns of gray matter are involved in a destructive lesion the motor response to stimuli is impaired or abolished, although it is observed in neuropathic muscular atrophy that the reflexes often remain until the disease has reached an advanced stage, although they have become greatly reduced and finally disappear. This is true of any form of anterior myelitis.

In locomotor ataxia the deep reflexes disappear early, and as a rule the continuance of the reflexes may be

---

Read before the American Academy of Railway Surgeons, Omaha, ., Oct. 12-13, 1899.

Journal of Nervous and Mental Diseases, March, 1899.

taken as evidence that the disease is not this affection, although in rare cases the reflexes may be present after other evidences of ataxia have appeared, as the Romberg symptom. I have recently had an opportunity of examining a case in which the Romberg symptom was present, and also the patellar tendon reflex; there had never been any lightning pains, and the pupil reflexes were active. In these cases it may be assumed that the lesion occurs very low in the cord and does not early involve the lumbar region.

It must be assumed that, both on a physiologic and pathologic basis, if the disease is of an inflammatory or degenerative character, and is confined to the anterior or posterior horns, the deep reflexes will slowly or abruptly disappear; the same would be true if the nerve-fiber communication with the cord were cut off. In general terms it may be contended that a disease of an inflammatory or degenerative character confined to the spinal cord alone and of sufficient extent to involve a complete motor and sensory paralysis, will lead to an abolishment of the deep reflexes of the lower extremities.

It is true that a mixed degenerative change may for a considerable time involve exaggerated deep reflexes which may suddenly or gradually disappear when the gray cells in the anterior or posterior horns become extensively involved or, again, a degenerative spinal cord disease characterized by exaggerated reflexes may present the phenomena of abolishment of these reflexes by a later involvement of the motor or sensory side of the cord. This is illustrated in a case with which I was connected. A patient suffering from spastic spinal paralysis manifested the special symptoms of this disease for several years, but was able to walk about, however, with some difficulty. She was abruptly seized with a chill followed by a temperature varying from 102 to 104 F., and became helpless so far as the lower extremities were concerned. The exaggerated reflexes disappeared; in fact no ankle-clonus nor patellar tendon reflexes could be excited. The fever continued about ten days; and she improved somewhat in general health, but she could not walk, although she could move her legs in bed by an exercise of the will; yet motion was weak. I saw here three weeks after the attack above referred to. It was our opinion that an anterior myelitis had occurred in the lumbar cord, cutting off the response to reflex stimuli. We may admit in this case the influence of toxins developed in the course of the disease and exercising a paralyzing influence on the cells of the cord.

In acute myelitis the grouping of symptoms is too well marked to lead to an error of diagnosis, but the deep reflexes are quickly abolished. On the other hand, chronic myelitis is marked by the exaggeration of the reflexes. In this disease the development is slow, and as it involves the lateral tracts as well as the anterior and posterior, and not any of these to a destructive extent, at least for a considerable time, we may have certain mixed symptoms among which will be found the exaggerated deep reflexes. In the progressive muscular atrophy of Aran Duchenne, it has already been observed that while the reflexes are not always at once abolished they soon become weakened and generally disappear; on the other hand, in the mixed or amytrophic forms, the reflexes are greatly increased, due to the involvement of the lateral tracts; hence the reflexes are of great value in distinguishing between the two diseases. It may be contended that the deep reflexes are of great value in distinguishing between primary lesions occurring in the anterior or posterior horns, as in the anterior myelitis, and locomotor ataxia from mixed lesions, as in spastic spinal paralysis or multiple sclerosis.

It may be said, however, that there are alleged forms of degenerative or inflammatory lesions of the cord, which are of an indeterminate character without symptoms, which I have only seen or heard of except in litigation cases where serious lesions of an organic nature are said to exist, which only learned neurologists can discover, and which have wisely never been put on record. I am persuaded to believe that only minds of peculiar constitution and of great refinement can understand or appreciate this class of lesions. Whether these lesions ever occur except in spinal cords injured by corporations I am at a loss to know. I have recently been informed, in considering a case, that quite extensive lesions of an inflammatory character, occurring in patches, gave rise to no symptoms whatever during life, and that they might exist, and did exist in the particular case, and not affect the deep reflexes. I was advised that these observations had not been published.

Some interesting observations have been made by Dr. Mills in relation to localized lesions affecting the patellar tendon reflex and not the ankle-clonus. These cases are extremely rare; only eleven have been reported of the persistence of ankle-clonus after the patellar reflexes had disappeared. To account for this condition we may consider the fact that the cord center for the patellar reflex lies in the lumbar segments from the second to the fourth, inclusive, corresponding to the origin of the crural nerve. This region of the cord, together with the afferent and efferent nerves, constitutes the reflex arc for the patellar reflex; therefore a focal lesion in this part of the cord will abolish the reflex. The persistence of the ankle-clonus after the patellar reflex is abolished is explained on several hypotheses. The most probable one is given by Dr. Mills, as follows: "On theoretical grounds it seems probable that the syndrome might be due to a focal lesion in the cerebral cortex or in the cortical spinal tract, or to arrested development of the tract associated with disease—inflammatory or degenerative—limited to the crural nerves and their muscles."

The importance of the deep reflexes in the diagnosis of organic spinal cord disease is of limited value and chiefly confined to focal lesions which affect the spinal centers included in the reflex arc, or in the tracts of the cord which have undergone more or less extensive degenerative changes. In locomotor ataxia they are generally abolished, although in some cases where the lesion is confined to the lower segments of the cord, the patellar tendon reflex may persist. In anterior myelitis involving extensive lesions, they are abolished. In localized myelitis there will be considerable variation in this respect, depending on the location of the lesion with reference to the particular reflex arc and the extent of involvement of the cord structures. In neuritis of the crural nerve the knee-jerk is lost, except in the earlier stages of the disease, and this will depend on the intensity of the inflammation. In multiple neuritis the same is true, except that it involves a wider range of reflexes.

In spastic spinal paralysis, amytrophic lateral and multiple spinal sclerosis, the reflexes are exaggerated. In syringomyelia, the reflexes are abolished if the focal lesion is in the anterior horn or in the posterior columns; if in the crossed pyramidal tract, the reflexes will be exaggerated.

In functional nervous diseases or morbid states of the nervous system the reflexes are changed in character. In hysteric paraplegia, according to Gowers and Mills, the ankle-clonus is abolished. The majority of neurologists, however, hold to a different view, contending that in about 20 per cent. of the cases the ankle-clonus is present. Mills is of the opinion that in these cases an organic disease exists obscured by the hysteric symptoms. Mills also contends, from recent observations, that the patellar *clonus is absent in hysteria, but admits that "it is not* improbable that patellar clonus will be found in those cases of hysteria in which hypertonicity and the diathesis of contracture are present—some cases of spastic and convulsive hysteria; cases of tetany and some cases with choreic and athetoid phenomena."

In pure neurasthenic cases my observation is that in a considerable number the knee-jerk is increased; not exaggerated as in the spastic condition, but merely increased. I have made many observations on this point, both in traumatic neurasthenia and in that not due to trauma, and while there was some modification of the reflexes, I have never found them absent.

The real diagnostic value of the deep reflexes can only be determined by a very careful consideration of the facts in the case, and by a careful study of the reflex itself. There is no certain and absolute guide as to the intensity of a normal reflex. I have examined about 500 presumably healthy men who were applicants for service with a railroad company, and found a great variation in the extent of movement of the leg when the patellar tendon was struck. In about one in a hundred there was no response. In a somewhat larger proportion the reflex could be obtained on reinforcement. In about 4 per cent. the reflex was large and would appear to be exaggerated; indeed, I have heard physicians declare in examining medicolegal cases, that reflexes of the same range were exaggerated, and the reflex was offered as an evidence of spinal cord disease. But on comparing this increased reflex with the exaggerated one of spastic spinal paralysis the difference would at once be seen. Hence, the experience derived from the observation of the reflexes in healthy persons will be an important factor in correcting certain misconceptions which may arise from examinations confined to individuals who are supposed or alleged to be suffering from some spinal cord lesions.

It will be seen that a consideration of the reflexes alone will be misleading in determining the nature of a spinal cord disease, or in distinguishing absolutely between an organic or functional affection of the nervous system, but when taken in connection with the other symptoms will be of considerable value in reaching a conclusion. But, on account of the considerable variation in the normal reflex, they must be studied with great care or the examiner will be led into error regarding the value which may legitimately be attached to them.

DISCUSSION.

Dr. J. T. Eskridge, Denver, Colo.—There are many symptoms on which a diagnosis depends in almost every case, and we are rarely justified in making one on one symptom alone. This is a mistake which is made by too many men. They often rely on one symptom as indicative or symptomatic of an organic lesion. On the other hand, mistakes are made when we have multiple symptoms of hysteria present. A diagnosis of hysteria may be made when there is organic trouble present. Did I understand Dr. Fairchild to say that one leg was paralyzed and the other anesthetic?

Dr. Fairchild—There was sensory and motor paralysis in the same leg.

Dr. Eskridge—I have yet to see the first case in which persistent ankle-clonus has been present in hysteria. Gowers lays stress on this and says that he has never met a typical case of ankle-clonus. Sachs, of New York, brings forward examples in which he claims typical ankle-clonus was present in cases of hysteria. We not infrequently get pseudo-ankle-clonus in this affection, but it is distinctly different from that of organic lesion. If you take distinct ankle-clonus of organic lesion and bend the front of the foot up, the ankle clonus will persist, and if you increase the pressure you will increase the ankle-clonus. In hysteria, on the other hand, not infrequently, if you take hold of the foot, two or three wave-like motions which are irregular and comparatively voluntary in character will be made, but will not persist, and if you press firmly on the foot, will disappear. To repeat, I have never seen a typical ankle-clonus present in hysteria, *notwithstanding the fact* that such an eminent man as Sachs reports that he has.

In regard to the paper of Dr. Fairchild, he spoke of persistent ankle-clonus and the knee-jerk being abolished. So far as I know, I was one of the first to make this observation in a clinical lecture, delivered at the Arapahoe County Hospital in Denver, eight or nine years ago. I was a little nonplussed at the time, to explain it; there was positive evidence of inflammation of the lower end of the cord, and the only explanation I could make of it was that we had focal lesion between the lumbar and sacral portions of the cord. In the sacral portion we have the innervation of the muscles that give rise to ankle-clonus, and those that give rise to the plantar reflexes; in the lumbar region we have the innervating center of the muscles that give rise to ankle-clonus. After I had made the diagnosis of a focal lesion between the lumbar and sacral centers, I wrote to Dr. Mills and he replied that he knew of no such case on record, but could not conceive of any other explanation. The patient died from other causes, and at the autopsy we found a focal lesion *in the upper sacral portion of the cord.* The lumbar region, under microscopic examination, showed the cord was perfect.

In regard to the knee-jerk, in all lesions above the lumbar region which involve the pyramidal tract, it is always increased. If the lower dorsal region is involved and we have a chronic condition which extends to the lumbar region, the knee-jerk will also be abolished. We may have an acute myelitis in the cervical or dorsal region in which the reflexes are abolished. *but this is during the period of shock; after a period* varying from a few hours to a few days the knee-jerks are increased. In cases of hemorrhage into the brain we will find the limb of the opposite side absolutely flaccid, but as soon as the shock passes away the reflexes return, and temperature goes up on the paralyzed side. When shock is over, in acute myelitis, the reflexes will return. Whenever the lumbar region is involved by any organic lesion, the knee-jerks are absolutely abolished, and it does not take much of a lesion in this reflex arc to produce abolition of the reflexes. If one branch of a nerve is involved in this arc, the knee-jerks may be absent, as, *in injury to certain branches of the anterior crural nerve.* These will result in complete abolition of the knee-jerk. In this connection we have another condition, i. e., the knee-jerk in healthy persons is not infrequently absent. I have found in a record of several hundred cases of apparently normal persons, that the knee-jerks were abolished in 1 or 2 per cent. of the cases. This does not agree with Erb, who has found it absent in a greater number of persons. Take the knee-jerk of all persons, and we find it absent in at least 1 per cent. In hysteria, the knee-jerks may be normal or increased, just as we find them in neurasthenic patients. Infrequently the jerks may be temporarily lessened or possibly absent in hysteria. I have occasionally found them temporarily absent in neurasthenia, and then again, in subsequent examinations, I have found them present. *The innervation of the nerves, or centers in the spinal* cord, will modify the knee-jerks, so that I think the observations of Dr. Fairchild in this respect, that no one symptom is to be absolutely relied on in making a diagnosis, are correct. It is only a combination of symptoms that relate to one another that enables us to make a positive diagnosis. The physician who makes a diagnosis on one symptom and regards it as positive evidence of organic lesion is going to make mistakes frequently. There has been one symptom brought forward which may in the future prove of great value to us. The first investigations were made some years ago, by Babinsky, and later the matter was investigated by Collier, of London. I did not mention it in my paper, simply because I wish to have more experience in regard to it. If Babinsky's observations should be confirmed by others, we have a valuable guide in several of those cases under consideration in which the knee-jerk is absent. The symptom is this: When you strike the plantar surface of the foot, if the pyramidal tracts from the cortical to the terminal portions of the nerve are involved, you will have an upward contraction of the foot, most marked in the great toe. This same condition exists in children. If you strike the plantar surface of the foot, when the child is only 3 or 4 years of age, the foot will turn up (illustrating). If you strike the side of the foot of a healthy subject it will almost invariably go down (plantar flexion). I have tried to elicit this symptom in several cases, and it is present in organic disease. It is present in certain cases of insanity, in some cases of neurasthenia, and I do not believe in reporting on it until my observations have been sufficiently extensive to enable me to confirm or differ from conclusions of others. Collier made his observations in the Hospital for the Paralyzed and Epileptics, in London, and gives a report of 300 cases in which he confirms the observations of Babinsky. Some of my friends, who have been making similar observations, have not been able to entirely confirm the views held by these gentlemen.

I have a word or two to say in regard to the subject of syringomyelia. The knee-jerks depend largely on where the syringomyelia begins. If it starts in the upper portion of the cord, which seems to be a favorite seat, the knee-jerks are increased. I have a patient under observation in whom there is incontinence of the bladder and of the bowel. The knee-jerks are absolutely abolished, although in the beginning they were increased. Evidently we have, in this case, the lower portion of the spinal canal distended, and the pyramidal tracts in the lumbar region involved, hence the abolition of the knee-jerks. So much depends on accurate observation in these cases, taking into account other relative symptoms that present themselves, that one is hardly justified in making a diagnosis on one or two symptoms alone. It shows with what care we should investigate all cases before making a diagnosis.

Dr. Fairchild, closing the discussion—I regret that my paper did not elicit more discussion on the part of other members of the Academy. We are presumably all railway surgeons, and all of us have examined the class of cases under discussion and have given our opinions to the claim department in order for it to form a basis for litigation in case that should happen to occur. These nerve lesions constitute the largest number of cases that the surgeon has to give an opinion on, so far as the claim department is concerned.

I quite agree with all that Dr. Eskridge has said, except in one particular. In regard to the indeterminate forms of spinal cord lesion, the Doctor must have misunderstood me a little in some respects, in one particular especially, and that was that these lesions could occur in the cord without giving rise to any symptoms whatever.

DIFFERENTIATION BETWEEN THE BULLOUS, VESICULAR AND PUSTULAR ERUPTIONS OF EARLY LIFE.*

BY CHARLES WARRENNE ALLEN, M.D.

Member of the American Dermatological Association; the New York Dermatological Society; Consulting Surgeon to the Randall's Island and other hospitals; Consulting Genito-Urinary Surgeon to the City Hospital, etc.

NEW YORK CITY.

Although dermatologists can not invariably make satisfactory distinction between rare forms of bullous affection, or classify them in an acceptable manner, it is usually no difficult matter to distinguish the non-specific from the specific. To this general rule there are a few exceptions. The distinction between syphilitic and non-syphilitic lesions of this character is not so much a matter of form, size, color, and course as it is a question of location, time of appearance and the coincident or antecedent occurrence of other manifestations, often in the nature of unmistakable stigmata. In other words, some definite manifestation of syphilis is almost sure to be, or to have been recently, present to confirm the diagnosis. So far as the chances are concerned of any given bullous, vesicular or pustular eruption in an infant being syphilitic, we must bear in mind that these forms are to be numbered among the rarer manifestations, bullous eruptions occurring as a first manifestation in from 5 to 8 per cent. of cases, while the maculopapular is seen as the primary eruption in about 50 per cent. These figures, like those of all other statistics, vary greatly according to the source from which they are drawn. If the palms and soles are the chief seat of development, the chances are largely in favor of the specific nature of the lesions.

The concomitant signs of syphilis, to which I have referred as of such aid to us in estimating the significance of clear or purulent bullæ and clear or purulent vesicles, include a peculiar cachectic appearance or dirty-yellowish anemic aspect; an earthy colored tint about the mouth, at times spreading over much of the face. The features are not always pinched or drawn, and it is an error which is at times committed, to teach that the "specific" infant is a thin, shrivelled up marasmic individual with the classic "old woman" appearance.

The majority of hereditary syphilitics are in their early infancy fairly well-nourished, and even plump, while possibly showing marked and at times severe eruptive signs. This necessarily does not apply to the large class born before time, who have a natural difficulty in catching up in their weight to that to which their apparent age entitles them.

There is also an almost never-absent coryza or catarrhal condition of the nasal mucous membranes; a crustiness and oftentimes fissured state of the lips; and a marked tendency to condylomatous formation about the mouth and anus. In older children certain peculiar erosive features of the permanent upper central incisors, deafness, and keratitis are stigmata of inherited syphilis on which we can not now dwell.

The subject, even restricted as I have indicated, remains a very broad one, and, to cover the ground I will attempt to take up the various bullous, vesicular and pustular affections of the skin and point out, as I go along, what are some of the points of differentiation between them and syphilitic manifestations as I have encountered them in practice. In this way I may throw out suggestions which should form the basis for an interesting discussion. In being confronted with an infant presenting vesicular, bullous and pustular lesions, we can often arrive at the decision that it is *not* syphilis, by paying strict attention to those points which will enable us to determine what the affection really is, and avoid the highly undesirable position of treating the patient for a syphilis which does not exist. It is questionable whether it is a greater offense to overlook syphilis or to treat a patient for it who has not the disease. Unfortunately there is an abundance of the real article if it is diligently sought. Having decided that a given eruption is not specific, I do not think specialists in the diseases of children can always tell what the disease really is. I say this because I know that skin specialists can not, although much painstaking investigation is being constantly carried out by them.

A great desideratum in the study of this class of affections is to simplify the classification and nomenclature. I would therefore urge the elimination of all such confusing terms as "syphilitic eczema," "syphilitic pemphigus," "varicella syphilitica," "variola syphilitica," all of which have to do with the subject before us, as well as the use of "syphilitic psoriasis," "syphilitic lichen," "syphilitic acne," and the like. These designations can best be dropped once and for all.

---

*Presented to the Section on Diseases of Children, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

THE VESICULAR SYPHILIDE.

This is among the rarest of the eruptive forms. It is to be distinguished from eczema, which is the disease it most closely resembles, by its slow course and the fact that it persists under the employment of remedies usually efficacious in eczema. There is also an absence of itching, which is in itself one of the most valuable of signs. There is likewise little or no "weeping," the lesions drying and remaining on infiltrated plaques in themselves dry and perhaps shiny or having a glazed appearance and often a waxy look. After the redness has subsided, and no traces of vesiculation are longer present, a dull discoloration and often a pigmentation is left behind, giving a dirty aspect to the skin.

An eczema in the vesicular stage, occurring in a syphilitic infant, may cause confusion for a time, but the individual vesicle of syphilis is much more deeply seated in the skin and retains its integrity as a vesicle much longer than that of eczema. In any event the rarity of vesicular syphilis makes the great preponderance of chance in favor of any given vesicular eruption being non-specific.

THE BULLOUS SYPHILIDES.

Good instances of bullous syphilis, like good Indians, are mostly to be found among the dead. Almost if not quite 80 per cent. of hereditary syphilitic infants, if not born dead, die before completing their third month of life. This number includes most of those showing the bullous or pemphigoid form of eruption. The latter is usually of the congenital variety, occurring at, if not before birth, though I have notes of a case in which it first appeared on the nineteenth day. It is of ephemeral duration, perhaps not lasting more than a few days, presenting from a few to a hundred or more lesions. The color is dull, opaline, yellowish or of somewhat greenish hue, and some bullæ may be hemorrhagic.

In the later stages the contents dry into thick crusts or, in malignant forms, an ulceration (ecthyma) takes place at the seat of the bulla. The location on the palms and soles is characteristic, and it is often there that bullæ first become noticeable. In some instances there is a tendency to confluence, and concomitant peri-anal and labial lesions are apt to occur.

Aside from stigmata of lues, which may be present, the history may give aid. If the mother has aborted once or several times previously, the presumptive evidence of syphilis is strong. In one instance, among my notes, there had been five miscarriages occurring between the fourth and eighth months; the child presenting the bullous eruption was born and lived for two months, and after this three other children were born at term.

PUSTULAR SYPHILIDES.

Here the lesions are either pustular from the beginning or bullæ and vesicles primarily of clear contents rapidly become turbid and purulent. When present at birth, a pustular eruption may be said to be always specific unless perchance it be variola. Pustules enter largely into the bullous syphilide, which rarely remains of a pure type for any great length of time. In one form yellowish flattened pustules occur in groups about the buttocks, the lesions being of lentil size, but tend to run into confluent forms. In a later form pre-existing papules and tubercles develop purulent foci at the most prominent and central point, and these subsequently dry into very dark colored crusts. Such lesions occur not only about the buttock and lower extremities but also frequently on the face. Marked pustulation indicates a cachectic state in which there is usually found restlessness, rapid pulse and other unfavorable symptoms, and early death may be anticipated. If papules, vesicles and pustules coexist we have practically only varicella to exclude, though eczema and scabies may occasionally present somewhat the same polymorphous appearances.

We will now take up the cutaneous affections characterized by vesicles, bullæ and pustules, or presenting these lesions in such a way as occasionally to raise the question of possible syphilis.

PEMPHIGUS.

The various affections which have been described under this general term have included septic bullous processes, impetigo contagiosa bullosa, erythema bullosum, epidermolysis bullosa hereditaria, traumatic bullous dermatitis, and possibly at times the effects of drugs as well as bullæ due to other causes. Infants and children are more prone to water-blister formation than adults, though vesicular and bullous eruptions decrease in frequency after the first year of life. While less confusion exists to-day than formerly, the whole subject is still surrounded with difficulties. The pemphigus group has become disintegrated and is now passing through a process of reconstruction. The term should be reserved for grave systemic disease with well-marked bullous features.

PEMPHIGUS ACUTUS (FEBRILIS).

Acute febrile pemphigus is very rare, either in the adult or infant, though more frequent in the latter, confusion arising from impetigo, erythema bullosum or other bullous affections. The epidemic form in institutions and in the practice of certain midwives to which I will presently refer is probably impetigo contagiosa or some still ill understood infectious process.

PEMPHIGUS NEONATORUM.

Of the many forms of bullous disease which have been called pemphigus, that usually designated as pemphigus neonatorum interests us chiefly in this connection. It is characterized by an eruption of rounded or hemispheric bullæ seated on a very slightly reddened base, or springing from the normal colored skin, occurring not earlier than the second week as a rule. The fluid within the bullæ is a clear or yellowish serum becoming opaline or cloudy, and sometimes hemorrhagic, though rarely pustular. The soles and palms are not involved, and the number of separate lesions is usually limited but of general distribution. In young infants it is usually apyretic and ends in resolution after a seven to nine days' course. This form is rarely seen. The general health is not greatly disturbed. The first lesions may occur on the face or chest. They vary in size from that of a pin's head to a silver dollar. The statistics of the American Dermatological Association for twenty years show its rarity, giving but eleven cases out of 309,000 skin affections reported. We must, however, remember that dermatologists are not so likely to see these cases as are the family physician and specialists in children's diseases.

Septic forms undoubtedly exist, especially in the offspring of mothers who are septic, probably by way of the milk. Peter[1] describes a bullous eruption in a nursing infant 11 days old, whose blood as well as the mother's milk showed cultures of the staphylococcus pyogenes aureus, a diplococcus, and in separate colonies staphylococcus pyogenes albus.

Pemphigus of the new-born is distinguished from syphilis by freedom of palms and soles, the little tendency to suppuration, to confluence of pustules or to the production of ulcerative lesions (ecthyma), and by the absence of history and other signs of syphilis. The general health is fairly good, and no marked evidence of cachexia is present. It is also to be distinguished from the hereditary predisposition to bullous formation from slight injury—epidermolysis—and from the effects of too hot bathing, hot-water bottles, etc.

---

[1] Berliner Klin. Woch., 1896, No. 6.

PEMPHIGUS CHRONICUS.

In this form older children are affected. The bullæ have a more symmetric distribution, the onset is more insidious, and the course is, as the name indicates, a chronic one, there being a tendency to recurrences or to successive crops of similar nature, or to pass into the form of pemphigus foliaceus, and its ending is lethal.

PEMPHIGUS EPIDEMICUS.

While the writer has for a number of years believed that most so-called pemphigus of the new-born, occurring in epidemics in lying-in institutions, or in the practice of certain midwives, was not pemphigus at all, but the bullous form of contagious impetigo, he is prepared to admit that septic forms may occur which are transmissible and often end fatally. Otherwise it is difficult to account for the great mortality, since, in older children at least, impetigo contagiosa is not a fatal disease. There are probably two forms of bullous affection which might be designated as epidemic. That in which the mother, the nurse, and the physician run a risk of infection, and which occurs among older children in institutions, will usually be found to be impetigo. In instances like that related by Dohrn, an infection of different nature would have to be suspected. He relates that of the children of 65 women attended during a period of four months, by a certain midwife, 28 developed acute pemphigus, and 8 died. After a vacation of a month she resumed practice and delivered 9 women within a period of twenty days. Three of these children had pemphigus. After another interval of three weeks she delivered 6 children, 3 of whom had pemphigus and 1 died. The midwife then gave up practice. Lofenstamm mentions twenty cases in a year, with 2 deaths. Lechmeister[2] mentions 28 cases in 76 births in the practice of one midwife.

PEMPHIGUS FOLIACEUS.

This form may succeed the form of pemphigus vulgaris, or it may attack an infant in a state of apparent health. The bullæ, instead of being distended hemispheres, are rather flaccid lesions giving rise to those which resemble a burn whose bullæ have ruptured, causing denuded areas covered or encircled with shreds of epidermis. The diagnosis rests between this affection and burns on the one hand and pemphigoid syphilis on the other. I have more than once had presented to me in institutions infants in much the same condition as above described, with the suggestion that the nurse has been culpable in administering too hot a bath or has applied hot-water bags injudiciously. Knowing as well as I do the dangers of the hot-water bag, I believe one must bear these cases in mind and be on one's guard not to do unintentional harm to the innocent by a too speedy judgment.

EPIDERMOLYSIS HEREDITARIA BULLOSA.

We will next take up what has been designated as "family pemphigus," because it has in the past almost always been classed as a form of pemphigus. It is that peculiar hereditary predisposition to the formation of bullæ on surfaces exposed to friction and other forms of slight traumatism: the lesions being observed chiefly on the feet, hands, buttocks, or over some joint where pressure of clothing, etc., is made. It is a congenital affection in the sense that an infant may be born with one or more bullæ on the surface, and only in after-life, when the pressure of a shoe or some slight irritant has called forth similar lesions, is the true nature of the affection manifest. The lesions are of short duration, and, although the bullæ are at times quite large, no scarring results. Pinatelle[3] has reported an instance in which seven brothers and sisters of one parent were affected; the bullæ began to form at about the age of 3 years, and occurred every eight to fifteen days. There may be slight pruritus, but as a rule no general symptons are recorded. The palms are not affected, though the mucous membranes are at times. The nails may fissure and be shed, and vitiligo or hyperpigmentation have been recorded as secondary effects.

DERMATITIS HERPETIFORMIS.

Duhring's disease, as it is most appropriately called, instead of adding to the confused state of our knowledge by adding a new name, has simplified matters by giving us a place in which to put a certain number of cases not otherwise readily classified. This being preeminently a vesicular, pustular and bullous affection, occurring in a variety of combinations, characterized chiefly by herpetiformity and tendency to relapse and recur, it seems almost to meet the requirements of the syphilitic eruptions. We will not dwell on the affection, however, as it is rarely seen in early life, Arning's case at the age of 6 years being looked on as exceptional. It has, however, a bearing on the question of vaccination eruptions, which we will consider further on.

IMPETIGO.

There seems to be no very good reason for retaining the qualificative "contagiosa." When we speak of impetigo to-day it is understood that we mean the contagious variety and the only one about which there is likely to be much to say. We may accept a simple impetigo occurring as a few pustular lesions with thicker walls than those of the contagious variety, without much evidence of inflammation, and desiccating without leaving staining or scars, but it is so extremely rare and, since all pustular lesions are probably contagious in the sense that they are inoculable, the matter would be simplified by accepting one impetigo which is sometimes pustular and sometimes vesicular or bullous from the beginning, remembering that there are serpiginous, gyrate or circinate forms of the same process. Some instances strongly suggest ringworm by the circinate outline of the patches, the center having cleared up as in trichophytosis. Syphilis might here, too, enter into question, and possibly instances of reported vesicular and vesiculo-pustular syphilide on the face in infancy have been only instances of this affection. There is this chief distinction to be made, that in syphilis the base tends to become ulcerated. I have observed several instances of the gyrate form of bullous impetigo extending over the greater part of the body and lasting a long time. I have reported one instance and Elliot another, both of which are referred to in a recent article by Corlett.[4]

ECTHYMA.

This follows naturally at this point, for it too is a pustular affection, but here the lesions are on the hips, the back, especially its lower part, the thighs and legs; the face escaping. I am inclined to regard it as a form of impetigo in which the pustules begin in the deeper subepidermic rather than in the subcorneal structures. In those debilitated by preceding disease or other cause, or in whom the lesions have become reinfected with other organisms, deep ulceration or even gangrene may occur. Klotz includes the lesions in a class of "infected scratch" affection. There is a syphilitic ulceration closely allied to ecthyma which has led some authors to assert that ecthyma is always specific; this view can not be accepted. The chief point of differentiation is that simple ecthyma lesions are limited to the lower back, hips, buttocks, and thighs, while pustular syphilide going on to the formation of rounded ulcers occupies any region of the body.

---

[2] Vierteljahrsschrift, 1885, p. 270.

[3] Jour. des Mal. Cut., April, 1890.

[4] Cleveland Jour. of Med., December, 1898.

HYDROA.

Hydroa is a term which we will not employ by itself in the present discussion, since most affections so designated enter readily into the class of pemphigus, pompholyx, dermatitis hepetiformis or impetigo bullosa. It usually implies a bullous eruption occurring in successive crops attended by marked itching. There is, however, an affection, "hydroa æstivale," which has been at times confounded with syphilis. It begins in the early years of life and recurs annually or with more or less periodic regularity. There are erythematous spots, vesicles and bullæ on the face or exposed parts. The blebs rupture without becoming purulent, and the scars left behind are the chief cause of its being mistaken for syphilis. This simulation has even extended to the destruction of an ala nasi. Some of the originally described instances were for a long time looked upon as syphilitic. Crusting begins in the center, where there may be an attempt at umbilication, and extends to the periphery. After the crust falls we may find a depressed cicatrix.

Instances as early as the fourth and eighth month are recorded. It is at this age only that bullous syphilis can enter into question, since in subsequent attacks we have the history of periodic recurrence as a guide.

Other diseases to be distinguished from this summer eruption are variola and vaccinia—generalized bullous. Both of these are found elsewhere than limited to the exposed parts. Still, if we accept localized forms of these affections, in common with varicella, doubt may arise.

Echthyma multiforme—bullosa—lacks the pronounced periodicity of recurrence and leaves no scars, has a shorter course and not successive crops extending over months.

Pemphigus is more generalized, has no such history, and does not result in such scarring.

Other designations are hydroa vacciniforme, eczema solare, eruptio estivale, summer eruption, etc., all of which, together with the one here employed, are open to objection, since the affection may occur in the winter. Some authors believe that the cases all belong in Duhring's class of dermatitis herpetiformis.

GENERALIZED VACCINIA.

I must pass over varicella, variola, scabies, drug eruptions, and the other conditions whose lesions of fluid contents might simulate those of syphilis, to say a word in closing on generalized vaccinia, which might be regarded as a latent syphilis which the act of vaccination had served to "bring out," or as a syphilis by inoculation in the process of vaccination. An eruption of bullæ over the body, coming on after vaccination, is to be distinguished from one due to syphilis, largely by the history. If it comes between the ninth and fifteenth day—usually tenth or twelfth—we naturally may exclude inoculation syphilis, which would produce such manifestations only after a lapse of almost as many weeks. Then again, if the lesions are bullous and the child is over 4 months of age, everything speaks against syphilis, since we know that bullous syphilis tends to develop earlier than this and is usually fatal, when the infant is vaccinated in the first days of life. The necessity for strict differentiation and the difficulties often attending the matter were emphasized by Jonathan Hutchinson, at last year's British Medical Association, who related an instance of vaccinia which had been pronounced syphilis by all who saw it. I am sure I have seen many cases which would receive this verdict if the fact of vaccination having been done were withheld. During the past two years, out of a total of 10,000 skin cases, I have had over 600 vaccination ulcers, generalized eruptions, sequelæ or complications to treat. Of this number there were over one hundred more or less generalized eruptions, or one in every six. Of these generalized eruptions there were twenty-four of vesiculo-bullous nature, two pustular and two pustulo-bullous. Since few if any of these children had been vaccinated at an extremely early age there occurred no difficulty in excluding pemphigus neonatorum as well as bullous syphilide.

In a doubtful case it would be possible to proceed in the manner of Espine and Jeadin,[5] who inoculated a calf from the umbilicated vesicles of a generalized eruption which occurred on the fifth day after vaccination, producing vaccine vesicles which on reinoculation gave positive results.

126 East Sixtieth Street.

UNIFORMITY IN DEFINITION AND APPLICATION OF THE TERMS POSITION AND PRESENTATION.

BY FRANK A. STAHL, M.D.
INSTRUCTOR OF OBSTETRICS, RUSH MEDICAL COLLEGE.
CHICAGO.

Ambiguity in definition and application of terms, more especially of terms of importance, is still a method of expression unfortunately of too frequent recurrence in descriptive obstetrics. Nor are these infelicities of expression of recent date, for, the need of uniformity in definition and nomenclature has long been recognized. Repeatedly, in monograph, in discussion, and in medical congresses, efforts have been made to overcome these and to establish greater clearness in definition and application of term and a more simple, yet accurate nomenclature.

Among the last to treat of this subject was Prof. A. R. Simpson of Edinburgh, with a committee of American obstetric teachers. Preparatory to its consideration, he had sent out the following question to various teachers of obstetrics throughout the world: "Do you consider it desirable to try to attain uniformity in obstetrical nomenclature?" The replies varied from "eminently so" to "certainly, but very difficult." At the meeting of the Ninth International Medical Congress, held in Washington, D. C., in 1887, the association adopted, as suggested by this committee, a nomenclature and application which has since been regarded as the authoritative and most probably is the nomenclature most commonly taught wherever obstetrics is read in the English tongue. The committee cleared up much that needed simplifying, the difficulties being many, but there
inequalities.

So far as pertains to uniformity
plication of the two terms, "position"

---

[5] Geselleschaft für Kinderheilkunde, D.

even a cursory scanning of standard English and American text-books, and for that matter also those of other tongues, will show that such text-book authority is strikingly unanimous in one respect only, viz., a most characteristically classic non-uniformity in definition and application; naturally a confusion in comprehensive results. It follows as a consequence, that one of the most pleasant duties devolving on the obstetric teacher is to try to convey to the student—with this material authoritative but conflicting—a clear and correct idea of position and presentation. He succeeds thus far; show him a chart, try him on the manikin, or clinically, and the student recognizes correctly; but have him paint a word-picture and his confusion in term and application is just as marked as that found in his text-book.

To assist in following this discussion, since the Transactions of that congress may not be at hand in many cases, I cite the report of the committee, as pertains to position and presentation under Sections 3 and 4, as follows:

SECTION 3.—PRESENTATION OR LIE OF FETUS.

The presenting part is the part which is touched by the finger through the vaginal canal, or, which during labor is bounded by the girdle of resistance. Three groups of presentations are to be recognized, two of which have the long axis of the fetus in correspondence with the long axis of the uterus, etc.

1. Longitudinal: *a*, cephalic, including vertex and its modifications, face and its modifications; *b*, pelvic, including breech and feet.

2. Transverse or trunk, including shoulder, or arm and other rarer presentations.

SECTION 4.—POSITIONS OF THE FETUS.

Vertex Positions:
Left occipito-anterior.......occipito-læva-anterior—O.L.A.
Left occipito-posterior.....occipito-læva-posterior—O.L.P.
Right occipito-anterior...occipito-dextra-anterior—O.D.A.
Right occipito-posterior..occipito-dextra-posterior—O.D.P.

Face Positions:
Right mento-posterior.....mento-dextra-posterior—M.D.P.
Right mento-anterior......mento-dextra-anterior—M.D.A.
Left mento-anterior ....mento-læva-anterior—M.L.A.
Left mento-posterior........mento-læva-posterior—M.L.P.

Pelvic Positions:
Left sacro-anterior...........sacro-læva-anterior—S.L.A.
Left sacro-posterior..........sacro-læva-posterior—S.L.P.
Right sacro-posterior.......sacro-dextra-posterior—S.D.P.
Right sacro-anterior........sacro-dextra-anterior—S.D.A.

Shoulder Presentations:
Left scapula-anterior......scapula-læva-anterior—Sc.L.A.
Left scapula-posterior.....scapula-læva-posterior—Sc.L.P.
Right scapula-posterior..scapula-dextra-posterior—Sc.D.P.
Right scapula-anterior...scapula-dextra-anterior—Sc.D.A.

When initial letters are employed it is desirable to use the initials of the Latin words.

DISCUSSION.

Under Section 3, "presentation or lie of the fetus" is an anachronism. It is an error to use presentation as the "lie of the fetus," for this latter phrase has reference to the *position* of the fetus as a whole, regardless as to what part presents at the uterine opening. Further, "three groups of presentations are to be recognized," "two of which have the long axis, etc., 1, longitudinal; 2, transverse." This latter double quote again refers to position. This is likewise an error. Position and presentation are not synonyms.

Under Section 4, "positions of the fetus," here position is again incorrectly used synonymously with the term "presentation." The word "position" as used under this section should make way for the word "presentation," for here reference is had to the part found in the uterine opening.

To overcome this embarassment in class work, I have deviated somewhat in nomenclature, definition and application from the usual text-book authority, not from the clinical picture, only in word-picture. I find the students readily master the positions and presentations as I give them.

As remarked, position and presentation are not synonyms and therefore should not be used synonymously. Etymologically considered, *position* refers to "aggregate of spatial relation of a body or figure to other bodies or figures; the situation; the place of a thing." *Presentation* refers to "that which is before; in view; appearance."

POSITION.

To recognize *position* with distinction, the relation of the fetus as a whole to the mother as a whole is as essential to artistic and scientific obstetrics as it is to recognize *presentation* with distinction—the relation of the presenting part to the parturient canal. It is the *position* that determines the *presentation*, and also its mechanism of labor. When speaking of the long axis of the fetus, reference is had to the long axis of its trunk.

To avoid confusion and ambiguity, the term position should be limited to the relation of the fetus as a whole to the mother as a whole, whereas, presentation should be limited to the local relation of the presenting part. Position is general; presentation is local.

In determining nomenclature, so far as pertains to position, Nature assists in suggesting one.

Look in any form or expression of Nature, so far as concerns relation of ovisac to fetus or shell to fruit; there we find one principle ever maintained throughout these various gestational expressions, and that is that the long axis of the fruit is always in the long axis of the ovisac and developing organ.

In the viviparous, the human, the lion, the horse, dog, etc., the long axis of the gestation sac is determined by the long axis of the fetus and is, as a rule, in the long axis of the mater, her longitudinal or vertical axis. Throughout Nature this is the normal relation of the fetus to the sac, and mater. In pleural conditions the apparently broken rule still holds true. Given any form of pluriparous gestation, as twins, triplets, quadruplets, etc., in any form of viviparous expression; as each fetus is expelled, often oblique and transverse to the mother before labor, in labor its long axis conforms to the long axis of the mater, for the long axis of her parturient canal is always in the long axis of the trunk. In the single fetus where the normal vertical relation (position) has deviated into the abnormal oblique or transverse position, to be delivered it must return to the vertical relation.

In the oviparous the egg is so conformed that in labor its long axis corresponds to the long axis of the mater. A critical type of this expression is to be seen in the parallelogram form of the gestation sac, containing the embryos, of the common domestic cockroach.

In the vegetable the same rule obtains, and with equal force. Regard the banana, the peanut, the philopenal almond, in cell-life the nucleus to the cell. Throughout gestational nature, this same relational principle of long axis of ovisac to long axis of fruit is maintained, seemingly a sympathy of relational fitness of outline best conserving opportunity to develop coincidently with greatest safety.

Since the long axis of the fetus determines the long axis of its sac and coverings, in determining the position of the fetus the spatial relation should be to the fixed relation, the mother, as a whole, rather than to its un-fixed relation, its sac and the uterus. In the extrauterine forms of pregnancy, the position must of necessity and correctly so refer to the relation of the fetus as a whole to the mother as a whole. Our definition must be so broad, yet accurate, as to include all forms of pregnancy, the uterine and the extrauterine.

Hence, *position* has reference to the relation of the fetus as a whole to the mother as a whole, and is determined by the relation the long axis of the fetus bears to the long axis of the mother.

The *variety* of position is determined by the relation which the important landmark of the fetus as a whole, the back (in the vertical positions), the head (in the oblique and transverse positions), bears to the important landmarks of the mother as whole, the (her) left side, the right side, anteriorly (to the abdomen), posteriorly (to the back).

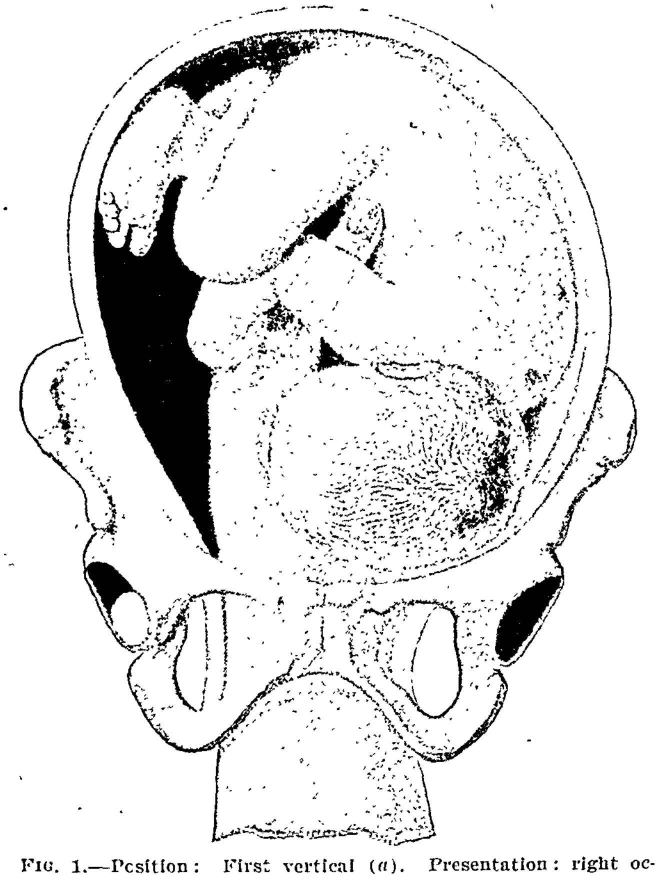


Fig. 1.—Position: First vertical (*a*). Presentation: right occipito-posterior.

In making bipolar or podalic version, the non-advisability of passing the hand and forearm over the occiput and back—dorsum—of the fetus is well shown.

The positions as suggested by their frequency of occurrence are:

1, vertical—normal.
2, oblique—abnormal.
3, transverse—abnormal.

1. Vertical position: where the long axis of the fetus is in the long axis of the mother, the position is longitudinal or, better, vertical. This is the normal position for the fetus.

2. Oblique position: where the long axis of the fetus is in the oblique axis of the mother, the position is oblique. The oblique like the transverse is abnormal.

3. Transverse position: where the long axis of the fetus is in the transverse axis of the mother, the position is transverse. The transverse position is seldom a fixed or determinative position. It bears the same relation to the other positions that the brow presentation does to the *occipital* and *face presentations*. The transverse position is as a rule but a transitory midway relation in the mechanism of a normal vertical position changing into an abnormal oblique position, or an abnormal oblique position changing to a normal vertical position.

These positions are also subdivided, as suggested by their frequency of occurrence, as follows:

1. Vertical[1] positions:

Position.	Presentation—Superior Strait
First Vertical.....	*a*. L.O.A. or L.S.A. or R.M.P.
	b. L.O.P. or L.S.P. or R.M.A.
Second Vertical....	*a*. R.O.A. or R.S.A. or L.M.P.
	b. R.O.P. or R.S.P. or L.M.A.

First vertical position is where the long axis of the fetus is in the long axis of the mother, with the back of the fetus toward the left side of the mother: *a*, back to the left and rotated anteriorly toward abdomen of mother; *b*, back to the left and rotated posteriorly toward back of mother.

Second vertical position is where the long axis of the fetus is in the long axis of the mother, with the back of the fetus toward the right side of the mother; *a*, back to the right and rotated anteriorly toward abdomen of mother; *b*, back to the right and rotated posteriorly toward back of mother.

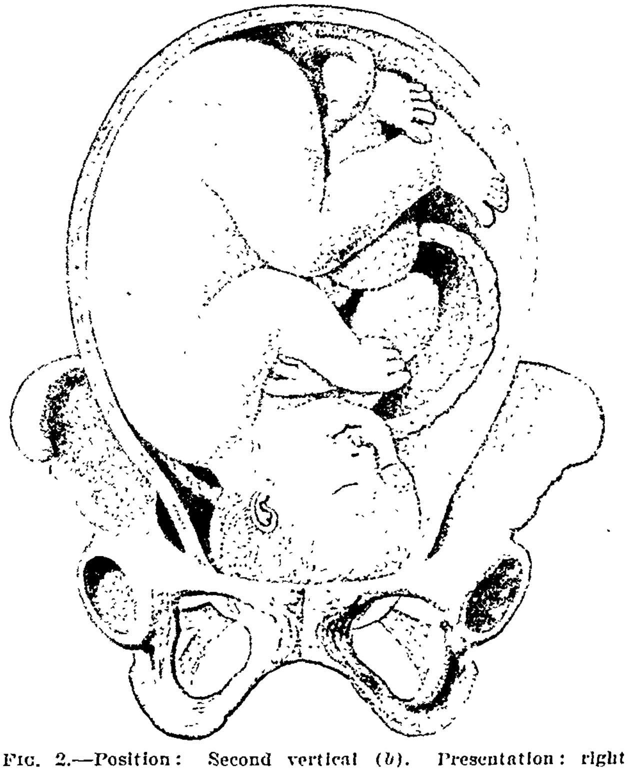


Fig. 2.—Position: Second vertical (*b*). Presentation: right occipito-posterior.

In applying forceps in this case, the low condition of the cord would invite special attention, to avoid its inclusion within the blades.

In those cases where the back of the fetus is directly to the left of the mother, or to the right, or to the anterior or to the posterior of the mother, it is unnecessary to designate them with a separate term. These positions are exceptional, and but transitory. As it is natural for the long axis of the fetus, its greatest length, to determine and be in the long axis of the uterus, its greatest length, its longitudinal or vertical diameter, so is it natural for the greatest breadth of the fetus, its bisacromial or transverse diameter to be in a favorable greater breadth of the uterus, one of its oblique diameters. Consequently it is natural, and the rule, for the back to be to the left anteriorly or posteriorly, or to the right anteriorly or posteriorly.

---

[1] Vertical is co-ordinate with oblique and transverse; whereas, longitudinal is co-ordinate with diagonal and horizontal.

2. Oblique[2] positions:

Position.	Presentation.
First Oblique................	*a.* right shoulder. *b.* left shoulder.
Second Oblique................	*a.* left shoulder. *b.* right shoulder.

The first oblique position is where the long axis of the fetus is in the oblique axis of the mother, with the head below in the left iliac fossa, the breech above toward the right iliac fossa, the trunk extending obliquely from the left below to the right above: *a,* back of fetus rotated anteriorly toward abdomen of mother—the right shoulder (and arm) presents; *b,* back of fetus rotated posteriorly toward back of mother—left shoulder (and arm) presents.

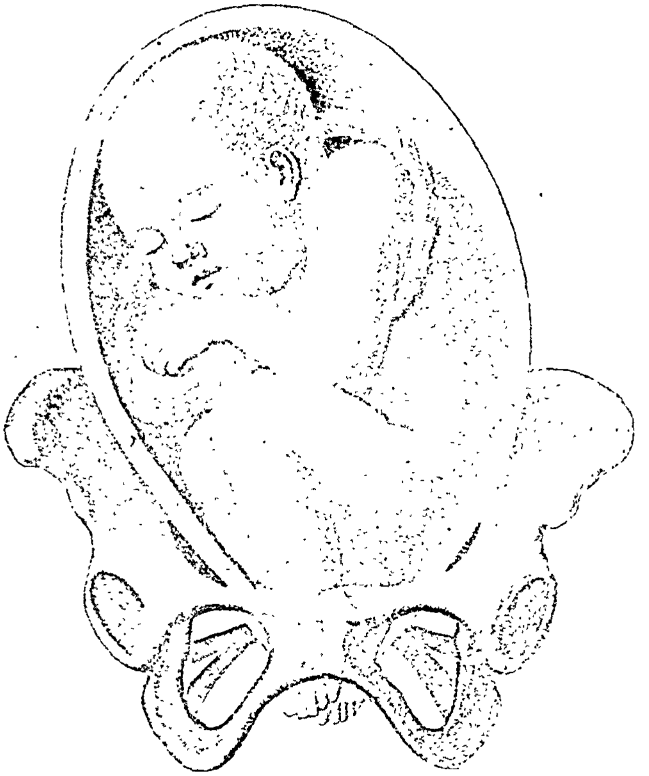


Fig. 3.—Position: First vertical (*b*). Presentation: complete footling. L. S. P.

In the delivery or the extraction, the cord thus twisted about the back of the head and around under the *axillæ* greatly increases the dangers to the fetus from asphyxia uterinæ. Early recognition of this condition is of prime importance.

The second oblique is where the long axis of the fetus is in the oblique axis of the mother with the head below in the right iliac fossa, the breech above, toward the left iliac fossa, the trunk extending obliquely from the right below to the left above: *a,* back of the fetus rotated anteriorly toward abdomen of mother—the left shoulder (and arm) presents; *b,* back of fetus rotated posteriorly toward back of mother—right shoulder (and arm) presents.

3. Transverse positions:

Position.	Presentation.
First transverse.......	*a.* trunk back anteriorly. *b.* trunk back posteriorly.
Second transverse.....	*a.* trunk back anteriorly. *b.* trunk back posteriorly.

In division, nomenclature, and relation these follow those of the oblique positions; their presentations are *not* like the oblique. The shoulder, with or without an arm, presents in an oblique position, but not in a transverse one. Here the presentation is some part of the trunk—thorax or abdomen—between the shoulders proper and the breech, excepting where the abdomen of the fetus is directly to the abdomen of the mother, when the small extremities lying on and along the trunk may present with the latter. Nor is it correct to speak of a "transverse presentation," including thereunder oblique and transverse positions with shoulder, arm, and trunk presentations. It is not only incorrect but very indefinite.

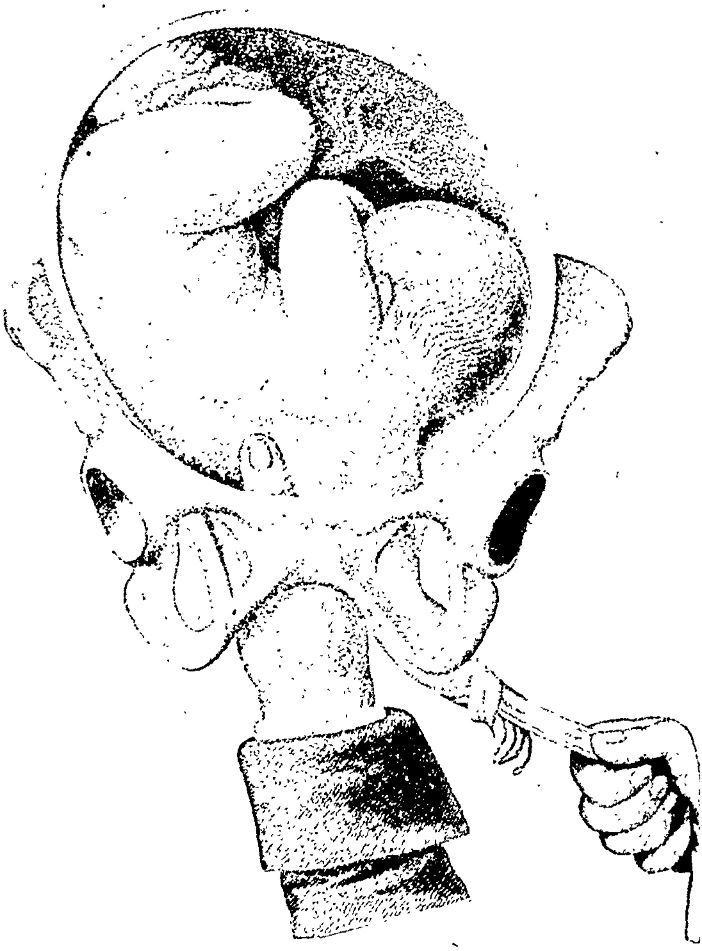


Fig. 4.—Position: First oblique (*a*). Presenation: right shoulder.

The contracting tape passed about the wrist is held here by the right hand of an assistant to turn; the operator enters the uterine cavity with his right hand. The effect conveyed by the assistant's hand is to hold the tape quite taut, as though to prevent slipping up of the arm and trunk. In the lying-in room, of course, this effect is lost; on the contrary, the tape is held quite loosely to encourage ease of rotation, especially in those cases where the fetus is large-sized.

To assist the student in fixing the detail of these various positions, it will be convenient for him to associate:

1. First with left: as first ver ... to left; first
oblique, head in the left iliac f ... transverse,
head higher in left iliac fossa ... for-
ceps to be inserted is ... ht;
the first in frequency
sentation.

2. Second with ri
right, etc.

3. *a,* with abdomen

---

[2] Hohl suggested this division, accepted by Hecker preferably to that of Mme. Lachapelle:

1. Right shoulder presenting *a*, head to the left; *b*, head to the right
2. Left shoulder presenting *a*, head to the left; *b*, head to the right.

Subsequently Winckel,
and recommend the classifi
cally, it can be best vindicat

(a) and first and second oblique, *(a)*all with back of fetus toward abdomen of mother.

4. *b*, with back of mother; first and second vertical*(b)* and first and second oblique, *(b)* all with back of fetus toward back of mother.

5. Back of fetus with back of fetal head: in position, as the back of the trunk is directed, so in presentation is, as a rule, the direction of the back of the head, i. e., if the back is directed to the left and anteriorly, a first vertical (*a*) position, as a rule the occiput or naturally the sacrum, is to the left anteriorly; therefore there is either a left occipito-anterior, a right mento-posterior, or a left sacro-anterior presentation. The exceptions to this rule are those few cases of excessive rotation of the head—these exceptions are so few that they constitute the proof of the rule. It is this rule that enables careful external before internal examination, to forecast the diagnosis of the most probable presentation, so successfully practiced in the hands of the careful diagnostician.

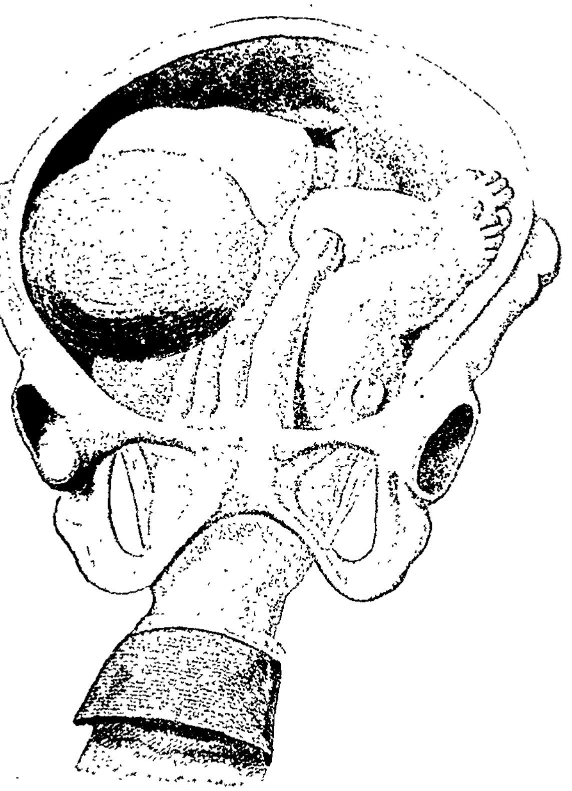


FIG. 5.—Position: Second transverse (*b*). Presentation: right side of trunk with right arm and thigh.

This condition is easily corrected, as shown, by introducing the left hand, to bring down one or both feet and extract.

PRESENTATION.

In speaking of a presentation the thought applies to the part in touch or before, and not to the relation it bears as a whole to its environment as a whole, i. e., position. To speak of the position of the presenting part is needless and will only lead to continued confusion. If we do so, our nomenclature must retrograde to that useless redundancy of the past, of which the fifth left occipito-transverse, and the sixth right occipito-transverse (Lachapelle); the third occipito-pubic, the sixth, occipito-sacral (Baudelocque); the fifth occipito-anterior, the sixth occipito-posterior presentations of to-day are types. As Professor King says, *these are "exceptional"* presentations; they are transitory, not determinative, in character. As well invite a special nomenclature for an occipito-anterior presentation where the head in rare cases is so tilted that, comparatively speaking, the ear can be felt more prominently than the occiput.

In fixing on the four cardinal presentations, left anterior, left posterior, right anterior, and right posterior, as of occiput, breech, etc., the committee most judiciously adopted the suggestions offered by the four cardinal mechanisms of labor, established by Nature for all cases. The advancing part, for example the occiput, however it may start out as a presentation—it may be occipito-directly anterior or posterior, or to the left, or to the right—to be delivered, must pass through one of the four cardinal mechanisms, as a left occipito-anterior or posterior, or a right occipito-anterior or posterior, in its delivery. Again, in defining the term "presentation," it must be so broad, yet accurate, as to meet the requirements of a presentation, often changing from its original form and relation: in the uterus; without the uterus; at the superior strait; in the cavity, or at the vaginal outlet.

Hence, *presentation* has reference to the part of the fetus which presents or is found in the parturient opening. In the normal uterine pregnancy it refers to the part found in the cervical opening; in the Cesarean section or in the extrauterine section, to the fetal part found in the artificial parturient opening.

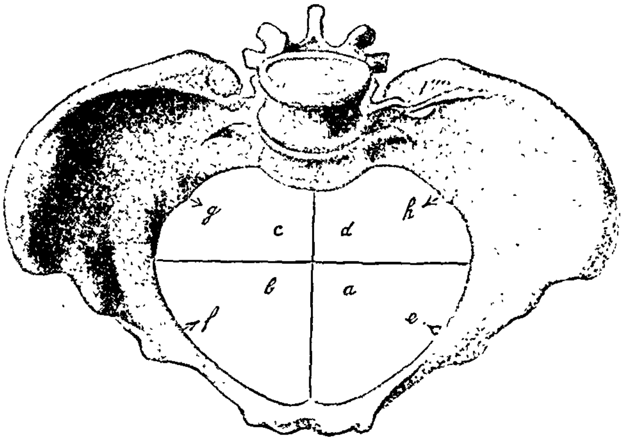


FIG. 6.—*a*, left anterior compartment; *b*, right anterior compartment; *c*, right posterior compartment; *d*, left posterior compartment; *e*, *f*, *g*, *h*, the cardinal points of the pelvic compass.

The *variety* of presentation is determined by the relation which the important landmark of the presenting part bears to the important landmarks of the parturient canal. In the fetus the occiput, the brow, the chin, the sacrum, shoulder, and in transverse positions, the trunk are the important fetal landmarks.

In the normal uteropelvic canal the four points of Capuron, the four cardinal points of the pelvic compass, the left and right iliopectineal prominences, and the right and left sacro-iliac synchondroses have been fixed as the maternal landmarks; or, again, another method which I have noticed, so far as the students are concerned, seems easy to grasp, is to divide the parturient *canal* by an antero-posterior plane, and at right angles to this, by a transverse plane: this will divide the canal into four compartments, as above:

About the center of the circumference of each arc will be found one of the four cardinal points of Capuron.

If the fetal part presents so that its most prominent landmark, for example, the occiput, is in the left anterior compartment, it is also toward the plane of the left ilio-pectineal prominence: naturally the brow would be in the right posterior compartment toward the right sacro-iliac synchondrosis: therefore, the variety of presentation is a left occipito-anteric each presentation, the important fetal landmark is the sacrum if this is in the left posterior compartment, it is also toward the left sacro-iliac synchondrosis; the variety of presentation is therefore left sacro-posterior.

It is here, in the obtaining of a clear and distinct outline of definition and application, and in mastering the method of how to determine the positions and presentations, and their varieties, that the beginner experiences his greatest trials. These successfully overcome, his subsequent labor with the various mechanisms becomes much simplified, for then he has a clear and accurate basis to work on; it is hardly necessary to add that with increased accuracy in conception, there is increased power in creation, for obstetrics is primarily an art.

In an article containing suggestions for teaching purposes, detail in explanation is required and prolongs the article, creating the impression that the method is a long one; but not so, for instructional purposes a brief résumé only is necessary, which I have found is of ready comprehension and fixation to the students; these are important qualities.

RÉSUMÉ.

Position has reference to the relation of the fetus as a whole to the mother as a whole, and is determined by the relation the long axis of the fetus bears to the long axis of the mother.

POSITIONS.

Vertical. Long axis of fetus in long axis of mother (normal).	1. Back of fetus to left side of mother with	(a) Back rotated anteriorly. (b Back rotated posteriorly.
	2. Back of fetus to right side of mother with	(a) Back rotated anteriorly. (b) Back rotated posteriorly.
Oblique. Long axis of fetus in oblique axis of mother (abnormal).	1 Head in left iliac fossa, breech higher above in right iliac fossa.	(a) Back rotated anteriorly toward abdomen of mother. (b) Back rotated posteriorly toward back of mother.
	2. Head in right iliac fossa, breech higher above, in left iliac fossa.	(a) Back rotated anteriorly. (b) Back rotated posteriorly.
Transverse. Long axis of fetus in transverse axis of mother.	1. Head in left iliac fossa, breech lower in right iliac fossa, trunk directly transverse.	Presentation, some part of the trunk.
	2. Head in right iliac fossa, breech lower in left iliac fossa, trunk directly transverse.	Ditto.

Presentation has reference to the part of the fetus which presents or is found in the parturient opening, and is determined by the relation the important landmark of the presenting part bears to the important landmark of the parturient canal.

PRESENTATIONS.

General Divisions:

Superior pole.	Cephalic.	Occiput. Face. Brow.	
	Shoulder.	Right. Left.	
Inferior pole (or pelvic).	Breech.		
	Kneeling.	Incomplete. Complete.	Rare.
	Footling.	Incomplete. Complete.	

VARIETIES OF PRESENTATION (as adopted by the committee):

Occipital Presentations—Normal:	
Left occipito-anterior	L.O.A.
Right occipito-anterior	R.O.A.
Occipital Presentations—Abnormal:	
Right occipito-posterior	R.O.P.
Left occipito-posterior	L.O.P.
Face Presentations—Abnormal:	
Right mento-posterior	R.M.P.
Right mento-anterior	R.M.A.
Left mento-anterior	L.M.A.
Left mento-posterior	L.M.P.
Pelvic Presentations—Abnormal:	
Left sacro-anterior	L.S.A.
Left sacro-posterior	L.S.P.
Right sacro-posterior	R.S.P.
Right sacro-anterior	R.S.A.
Shoulder Presentations—Abnormal:	
Left scapula-anterior	L.Sc.A.
Left scapula-posterior	L.Sc.P.
Right scapula-posterior	R.Sc.P.
Right scapula-anterior	R.Sc.A.

The committee recommended: "Where initial letters are employed it is desirable to use the initials of the Latin words." In English-speaking countries would it not be well to retain in instruction and later in description, the English left and right? *Læva* and *dextra* can not add perspicuity, but rather create a barbarism, and always more or less confusion. The German and French retain purity in style; for their *links und rechts, sinistre et droit* are never as a rule evidenced by *læva* or *dextra*. Will not these foreignisms in description mar the purity in style without adding any to its force? After all, are we not already in the age where English is cosmopolitan?

Columbus Memorial Building.

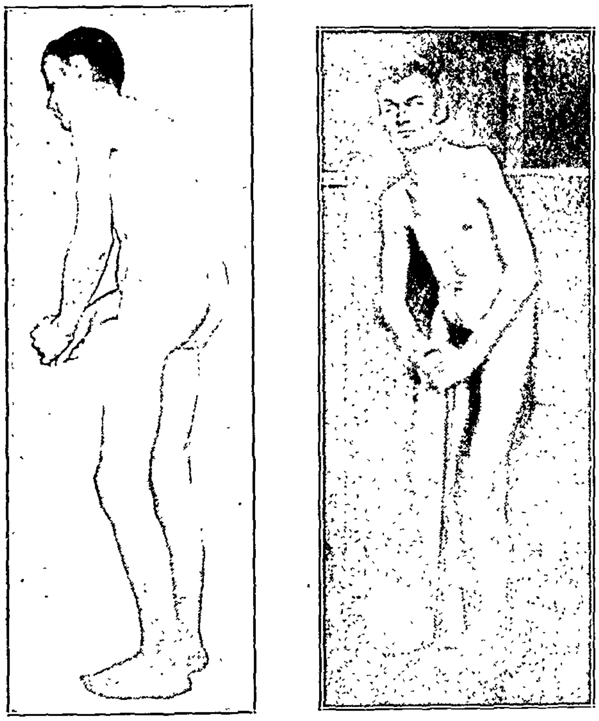
A CASE OF RHIZOMELIC SPONDYLOSIS.

BY AUGUSTUS A. ESHNER, M.D.
Professor of Clinical Medicine in the Philadelphia Polyclinic; Physician to the Philadelphia Hospital, etc.
PHILADELPHIA.

The literature of the last few months abounds with the reports of a morbid condition that has been variously designated stiffness of the spinal column, chronic, progressive rigidity of the spinal column with ankylosis, ankylotic rigidity of the spinal column, ankylosing inflammation of the spinal column and of the large joints of the extremities, chronic ankylosing spondylitis, deforming spondylitis, spinal arthritis deformans, and rhizomelic spondylosis.

The disorder is characterized essentially by increased posterior curvature, with lessened mobility, of the spinal column, often without, but sometimes with nerve-root symptoms, and involvement also of other joints, particularly the large ones of the trunk. The fundamental lesion in the majority of cases is believed to consist in a proliferative and rarefying inflammatory process involving the vertebræ, the discs between, and the ligaments uniting them. In some instances there is probably also meningitis, sometimes primary and sometimes associated or secondary. It appears that the disorder has been known for a long time, particularly to surgeons, but unusual attention has been directed to it of late, and reports of cases have been made from various parts of the world. To the not inconsiderable number of these I beg to add another:

C. U., a laborer, 24 years old, born in Russia, was admitted to the Philadelphia Hospital on July 5, 1899, complaining of pain in the back and chest, and loss of power in the extremities, especially in the left arm. Eighteen months previously pain developed in the left side, extending to the back, then to the left shoulder, finally involving the entire body. The pain was increased on movement, and the back was tender to touch. After six months loss of power appeared in the legs, and gradually increased until at the time of admission the man was unable to walk without supporting himself with his hands upon his knees. Nine months previously power was lost in the left arm, and a month later in the right arm also. At the time of admission the patient was unable to raise the left arm above the head, while the right arm was raised with difficulty. Also the legs could be raised from the bed with difficulty, and the patient stated that they felt heavy. The grasp of the left hand was stronger than that of the right. The patient lay with the head retracted. Some hyperesthetic areas were found on either side of the spine in the middorsal and lumbar regions, but no anesthesia. When the soles of the feet were irritated the patient complained of pain in the sides, and irritation of either foot caused clonic movements of the entire lower extremity. The knee-jerks were greatly increased, and patellar clonus could be elicited. The biceps-jerks were present. Pressure over the exit of the sciatic nerve induced clonic movement in the entire leg; and pressure over the ulnar nerve at the elbow caused twitching of the fingers. The dorsal spine presented marked convexity. The sphincters were under control. Heart, lungs, liver, and spleen exhibited no abnormality. The family history was negative, except that a brother had been paralyzed. The patient had suffered an attack of rheumatism five years before coming under observation, with painful enlargement of the joints. He denied venereal infection. He had used alcohol steadily, though not excessively, and tobacco moderately. He had also had an attack of dysentery 12 years previously. Examination of the eyes disclosed slight ptosis of the right upper lid, but no impairment of muscular movement. The pupils were equal and reacted promptly. No gross lesion of the fundi was found. There was high hyperopia.



Case of Rhizomelic Spondylosis.

On examination, Sept. 17, 1899, the following note was made: The patient is a tall, spare man, whose stature is reduced by his stooping attitude. The malar processes are prominent and the cheeks are somewhat sunken. The right palpebral fissure is narrower than the left; the right upper lid seems to droop slightly, and is somewhat deficient in motility. The irides appear to be equally active, although the pupils are not perfectly circular. The facial movements are active and symmetric. Mobility at both shoulder-joints is greatly impaired. The arms can not be raised to the horizontal, and attempts at movement induce pain. With the leg extended, the left lower extremity can be flexed only to an angle of about 30 degrees, when the patient complains of pain referred to the inner aspect of the knee. Abduction, which can be effected to an angle of about 25 degrees, is also attended with pain referred to the same situation. The leg can, however, be readily flexed on the thigh without discomfort. When, in addition, the thigh is flexed on the pelvis pain is again complained of at the inner aspect of the knee, and when the flexion is persisted in there is also pain at the hip-joint. With the thigh flexed, extension of the leg becomes difficult beyond a right angle, and pain is referred to the knee and the hip. Rotation of the femur is attended with pain, and is accompanied by a sense of resistance. The conditions of mobility are much the same in character on the right, but less in degree, and they are attended with scarcely any pain. Voluntary movement is fairly active in the lower extremities. The knee-jerks are greatly exaggerated, and abortive ankle-clonus is present on the left, but absent on the right. Percussion over the neighborhood of the sciatic notch excites clonic spasm of adjacent muscles, with imparted movement in the thigh, and to a less extent also in the leg. This phenomenon is present on both sides. The movements of the head are free and unrestrained. The posterior superior iliac spines are conspicuously prominent. While the spinal column shows a slight deflection to the right in the upper dorsal region, the ninth, tenth, eleventh, and twelfth dorsal vertebræ project conspicuously backward, and with the first three lumbar, also slightly to the left. When the patient sits erect, there is marked rounding and throwing forward of the shoulders, with convexity of the back. The grasp is deficient. The plantar reflexes are greatly exaggerated, vigorous irritation inducing active and at first clonic contractions, and slight irritation contraction of the tensor vaginæ femoris. Notably on the right the cremasteric reflex is especially active, as are all of the cutaneous reflexes. The patient complains most of generalized pain.

The accompanying illustrations convey a good idea of the patient's attitude.

It would appear, from the symptoms and the physical signs, that we are dealing here with disease not only of the vertebra and its appendages, but also of the spinal cord. The want of mobility both in the vertebral column and at the shoulder and hip joints would suggest the existence of some chronic hyperplastic disease in these situations. Such wasting as is present is universal, and may be attributed to the general impairment of nutrition, while the pains exhibit no localizing distribution. The irritability of the reflexes must be ascribed to involvement of the lateral columns of the cord, whether in inflammation or degeneration or secondarily to meningitis or to pressure it is difficult to state. The history of rheumatism may not be without significance from an etiologic point of view, as it has been thought to play such a rôle in other cases of the kind.

224 South Sixteenth Street.

Venesection in Pellagra.—The withdrawal of two to four hundred grams of blood in acute exacerbations of pellagra has proved wonderfully effective in restoring the subjects to comparative health (*Sem. Méd.*). In two cases reported by Peracchia the subjects were on the point of being sent to an asylum on account of the rebellious psychic disturbances when venesection banished them instantaneously and completely.

URIC ACID AND THE SERIOUS RESULTS WHEN NOT ELIMINATED.[*]

BY M. S. MARCY, M.D.
PEORIA, ILL.

It is well that physicians are human, and subject to all the ills and pains that other mortals have to endure, in life. Pain not only excites our sympathy, but makes all nature akin. Were this not true, this subject as well as many others might have received but slight attention from the medical profession for years yet to come.

When a medical man or his own family are suffering with some mysterious disease, he will give the subject his closest attention and continue to investigate until his efforts are rewarded by success. Alexander Haig, London, to whom we are indebted for an investigation of the subject of this paper, states that he was a sufferer from migraine, and not until the year 1882, after years of suffering and investigation, did he succeed in finding relief. Through his experience and his publishing of "Uric Acid as a Factor in the Causation of Disease," others have been relieved and many more will be when this matter has been more fully brought to the notice of the profession.

The subject presents such a vast field for investigation that one is almost bewildered as to where to begin. In glancing back over past years of experience, many diseases that were mysterious and perplexing are now made clear to our understanding—if the theories of Haig, Garrod, Bishop and others are true, and we believe they are, judging from cases that have come under our own supervision during recent years.

The subject of uricacidemia is by no means a new one, but when I first read the theory that uric acid or urates are introduced into the system in such large quantities in so many of the foods and drinks used daily, it was a startling revelation to me, and I at once began to investigate with the intention of satisfying myself as to the truth of the theories. Many physicians are to-day unfamiliar with these uncontradicted theories, evidenced by the fact that they still continue to prescribe a diet which contains the largest amount of urates of any food known, namely, extract of beef, tea, coffee and cocoa, of which I shall speak later.

Uric acid and urea are so closely related that I shall speak of urea in this paper. Both are nitrogenous products, and yet each is distinct and separate from the other. However, in the healthy body they maintain a marked proportion to each other, and when this regular proportion is interfered with, something has gone wrong in the human economy.

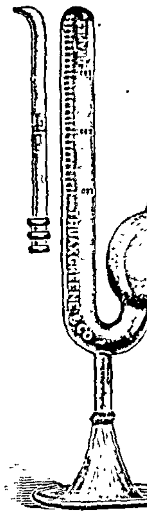
On decomposition, uric acid yields about 33 per cent. of its weight in nitrogen; it is feebly soluble, requiring 15,000 parts of cold or 1900 of boiling water to dissolve it. It is therefore rarely found in the urine in the free state; more often in the form of crystalline deposit—reddish sand; most often, however, it exists in combination as urates. We learn, from Purdy, that uric acid is dibasic, that it contains two atoms of hydrogen, which may be substituted by two atoms of a nomad metal.

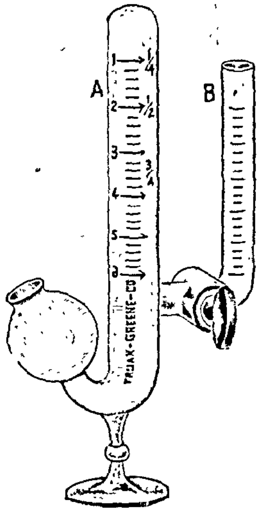
Urates containing but one atom of potassium, sodium or ammonium are acid urates, those containing two are neutral salts. The neutral salts of uric acid are readily soluble in water, while the acid ones are but feebly so. Therefore nearly all urate deposits consist of acid urate salts.

Uric acid crystallizes in the urine in rhombic, rectangular prisms, wedge and whetstone shape, of yellowish-red color, constituting, with its salts, the only sediments of the urine thus colored.

Urea or carbamid is a white, pearly, brilliant substance, and was first prepared synthetically from ammonium cyanate, by Wohler in 1828. It crystallizes in colorless, quadrilateral or six-sided silk-like prisms, with oblique ends, or when rapidly crystallized, in delicate, white needles which melt at 248 F.; they contain no water of crystallization, are permanent in the air, and soluble in cold water, the solution being neutral in reaction. With nitric acid urea unites to form nitrate of urea, which crystallizes out in octohedral, lozenge-shaped or hexagonal plates, which are less soluble in water than are urea crystals.

Uric acid corresponds to urea in its protein origin in the organism, but the seat of its formation has given rise to much discussion. Two different views are held on this subject, some writers claiming that it is formed in the spleen and liver, and excreted by the kidneys. This opinion is based on the fact that, in the normal condition, but a small amount of uric acid is found in the blood, while in gout, where excretion of the uric acid is diminished, it accumulates in the blood and tissues; also after extirpation of the kidneys it continues to be formed and the secretion of uric acid is most abundant at the time of digestion when the liver and spleen are the most active. Other writers hold that the kidneys not only constitute the seat of excretion but also that of formation of uric acid. The experiments, however, of Schroeder and Minkouski, on birds and geese, tend to disprove this theory. They found, after removing the liver, that the urine only contained 2 or 3 per cent. of uric acid instead of the normal amount of 60 or 70 per cent. Ammonia was also increased to 50 or 60 per cent. instead of 9 to 18, the normal amount; hence, according to our present knowledge, it is fair to conclude that uric acid is formed chiefly in the liver. It is formed by the synthesis of ammonia and lactic acid, which, after the removal of the liver, appear in the urine in equivalent quantities, and the remnant of uric acid in the urine after the extirpation of the liver originates from xanthin and similar products. It is now a well-established fact that urea like uric acid is formed principally in the liver—with perhaps a little help from the spleen.





It was formerly supposed by some that urea also was formed in the kidneys, but the same experimenters, after removing these organs, found it was also formed just as rapidly and accumulated in the blood the same as when the kidneys were in their normal condition.

---

[*] Read before the Tri-State Medical Society at Quincy, Ill., April 4, 1899.

In degenerative changes in the liver, such as yellow atrophy thereof, the urea in the urine is greatly diminished and sometimes absent. Noel Payton, in writing on the relation of degenerative changes in the liver to urea formation, says that two functions of the liver exist, the formation of bile and urea, and that they bear a direct relationship to each other.

Urea owes its origin in the economy partly to retrograde tissue metamorphosis, including the blood, and partly to splitting up of unassimilated nitrogenous principles of the food. Of the intermediate steps in this transformation but little is definitely known.

Thus the greater portion of nitrogen taken into the system in the way of food should be excreted by the kidneys in the form of urea. It is the most bulky single constituent of the urine, ranging in quantity, according to circumstances, from 300 to 600 grains in the twenty-four hours, in the healthy adult. Purdy tells us that the excretion of urea reaches its maximum quantity on an exclusive meat diet, much less on a mixed, and least of all on a vegetable one.

Variations in the quantity of urea excreted, in a measure constitute an expression of the changes in nitrogenous tissue metabolism, and as such possess definite clinical value. Thus, in acute fevers and inflammations, until the crisis of the disease is reached there is greatly increased elimination of urea. On the other hand, in chronic diseases, when tissue metamorphosis is retarded through malnutrition, the excretion of urea is diminished. Similar results follow in diseases involving the integrity of the liver. In Bright's disease, urea excretion is diminished in consequence of impairment of the structure of the kidneys, preceding, usually for some time, and during uremic attacks the excretion is markedly diminished, forming a valuable indication of the approach of this dangerous complication.

Mental and muscular activity hasten urea excretion by accelerating tissue waste, and hence this excretion is more active during waking than sleeping hours. The variations in the amount of exercise, the quantity and quality of food taken, atmospheric vicissitudes, the degree of activity of the other excretory organs render the relative and absolute amount of urea excreted almost as variable as the amount of water.

The amount of urea excreted by a healthy male, during twenty-four hours, is about 3.5 gr. per pound. A man weighing 160 pounds would excrete about 560 grains of urea, and as uric acid should be in relative proportion to urea as 1 to 33, the same man normally should excrete about 17 grains of uric acid.

The excess of urates excreted or retained not only attracts our attention to the patient's condition, but taxes our skill to restore the proper proportions and the normal excretions of these urates. The first thing then for the physician to do when called to see a case in which he suspects the urates are the disturbing cause, is to procure the whole of the urine passed in the twenty-four hours, before medicine has been taken, and ascertain the amount of uric acid and urea being excreted by the kidneys, and approximate the amount of urates that have been taken with foods and drinks, by making close inquiry as to the kind and amounts taken daily. Then and not until then can the physician prescribe intelligently.

A great many processes have been proposed for determining the amount of uric acid and urea excreted by the kidneys. Heintz's method is perhaps as accurate and simple as any, for uric acid: Take 200 c.c. of urine, and add to it 10 c.c. of hydrochloric acid, and let it stand for twenty-four hours in a cool room, then collect the precipitated uric acid crystals on a previously weighed filter and wash with cold distilled water. Dry the filter and uric acid crystals in a desiccator and weigh. By subtracting the weight of the filter, the result will be the weight of the uric acid in 200 c.c. of urine. If albumin be present, it should first be removed and the urine should always be filtered before applying the test, otherwise subsequent filtration is very difficult.

Urea may be separated from the urine as follows: evaporate, then add strong nitric acid in excess, keeping the mixture cool during acidulation; pour off the excess of fluid from the crystals of urea nitrate formed; strain through muslin and press between heavy filter paper, add to the dry product barium carbonate in excess, and add sufficient alcohol to form a pasty consistence; dry on a water-bath and extract with alcohol and filter; evaporate and filter on a water-bath, and set aside to crystallize. The result is nearly pure urea, plus the coloring matter of the urine.

The busy practitioner has but little time for extensive laboratory work, hence, for quickly determining the amount of urea in the urine, I have been well pleased with a little instrument devised by Dr. Doremus, of New York, which gives very satisfactory, approximate results. First have Knop's hypobromite of sodium solution prepared, by dissolving in 250 c.c. of distilled water 100 grams of sodium hydrate, then adding, after cooling, 25 c.c. of bromin. This solution may be kept on hand for a few weeks, in a dark-colored bottle. When it is desired to test a specimen of urine for urea, fill the bulb of the instrument with the solution, and by inclining the tube the long arm is filled to the bend at the bulb. By the pipette, 1 c.c.—ten drops—of the urine to be tested is slowly discharged up the long arm into the hypobromite solution. A rapid decomposition of urea takes place, the bubbles of nitrogen rising in the long arm, while the displaced liquid flows into the bulb, which serves as a reservoir for the overflow. In about fifteen minutes the decomposition of urea is complete, and the graduation on the long arm will indicate the quantity of urea in the volume of urine tested, the instrument being graduated. One c.c. of urine would represent about ten grains of urea to the ounce of urine. If the amount of urea is less than 10 grains to the ounce we understand that the patient is not excreting a sufficient quantity, and knowing that the relative proportion of uric acid to urea, that should be excreted by the normal healthy man, is 1 part of uric acid to 33 of urea, we can easily determine whether or not the patient is excreting the normal amount of uric acid, without resorting to the tedious process of testing for the latter.

As to the many disturbing manifestations of the human system by the retention of the urates, as noted above, a healthy man in middle life, whose weight is 160 pounds, should excrete about 16 to 17 grains of uric acid and about 525 to 580 of urea, during the twenty-four hours, and maintain the ratio of 1 grain of uric acid to 33 or 35 of urea. Just so long as he is careful with his diet, eating nothing to produce an excess of urates in the system, and continues to excrete the above quantity of urates, just so long may he expect to enjoy good health, barring contagious diseases and accidents. But, on the other hand, let this man begin to eat large quantities of meat, game, poultry, drink wine, beer, strong cider, tea and coffee, take his ease, and insufficient exercise to produce perspiration, and he will be in condition to develop disease which may [illegible] one of many different forms. Suppose he is exposed to a shower, his clothing becomes wet through, and he is seized with a violent chill followed by a high fever, severe headache, terrible pains in the muscles, and the different joints of the body; you will at once pronounce it rheumatism. This man has been eating and drinking foods and liquids containing a large amount of urates and acids, without taking exercise sufficient to produce perspiration. Nature has been busy excreting all that she possibly could, but has been unable to get rid of a large quantity of this, and hence has been compelled to store the greater portion of it in the liver, spleen, muscles, capillaries and, in fact, anywhere that a convenient dumping-ground could be found. Getting the clothing wet, the capillaries, already filled with urates, can not then resist the cold clothing, the surface of the body becomes cold, all perspiration is checked, acidity of the blood is raised, and as a result he is seized with a chill, followed by a high fever. The latter diminishes what little alkalinity there may be in the blood and, as we have just seen, the checking of the secretions of the skin has stopped the excretion of acid by this route, and forced it back into the circulation; then when we remember that the man's system is full of acid from the wine and beer, it is no wonder that this strong tide of acid sweeping into the blood overpowers the slight tide of alkalinity and drives the urates into any tissues that may have the least alkalinity—usually to the joints. As this foreign substance encroaches on the lining membrane of the joints and forces its way in until every space is occupied, the membrane becomes irritated, inflamed and congested, circulation becomes obstructed, and the tissues swollen until the word "torture" entirely fails to express the agony the patient is called on to endure. And, as if Nature was not yet avenged for the outrage heaped upon her, headache, suppression of urine, and deposits of urates in the muscles of the body, including those of the heart, follow, each and all of these adding their share of torture.

A severe headache usually accompanies the outset of this disease, while the blood is loaded with uric acid which causes a slow, high-tension pulse, but as soon, however, as the acid drives the uric acid from the blood to the joints and other tissues, the headache subsides, the urine may be suppressed by the capillaries of the kidneys being full of urates, thus preventing the escape of the fluids. As already stated, there are other fibrous tissues in the body where the urates are prone to take up their abode; when in the lumbar fascia, lumbago results; when in the fascia that forms the sheaths of great nerve trunks, sciatica; and when in those parts that support the various coats of the intestinal walls, the name is colic. The fibrous tissues in the pelvic organs, especially of women, may be attacked.

But there are still other fibrous tissues that are favorite seats of these urates, and in parts where perhaps they can do more damage than in any other part of the body, namely, those of the heart. Foster, in his work on physiology, claims that muscles become acid as the result of contraction, and if in some region of the cardiac muscles in proximity to the heart's fibrous investment. the products of functional activity and contraction are not quickly removed, the muscles and the adjacent fascia may have their alkalinity so far reduced as to form foci in which the uric acid circulating in the blood becomes less soluble and more easily retained. Such retention gives rise to local irritation, which still further reduces the local alkalinity, more uric acid is deposited. and so on until a considerable area of inflammation going on to proliferation of fibrous tissue and scar formation is the result. When this occurs in the fibrous tissues of the heart, we have endocarditis and pericarditis resulting. But this is not all, as in the joints we find that the heat and friction of exercise determine which ones shall be the least alkaline, and hence get the largest share of uric acid, so with the heart—the fibrous tissues of the valves may and generally do suffer from friction and percussion and are rendered the least alkaline of all the fibrous tissues of the heart at a time when there is a general fall of alkalinity. When the heart is in this condition, and extra exertion or strain on it—e. g., the patient rising up in bed, or getting up, or sitting up—will give rise to local irritation on the opposing surface of the mitral or aortic valves, may diminish the local alkalinity, and cause a local precipitation of uric acid and consequent irritation; this irritation may be repeated again and again, until what were at first scarcely visible points of irritated connective tissue, come to form well-marked nodules and scars. Such a small, local irritation in the mitral valve is carried on and on by a frequently recurring uric acid irritation until the whole valve is reduced to the condition of a thickened scar, and we have mitral constriction.

It has been stated above that uric acid in the blood obstructs all the capillaries and raises blood-pressure. If this be true, then it follows that this pressure must throw increased work on the left side of the heart, first on the aortic valves, and thus during systole on the mitral valves also, owing to the increased resistance to be overcome, so that the valves of the left side are most exposed to injury by friction and percussion, just at the very time when there is an excess of the irritant uric acid in the blood, ready to be precipitated on them should the heat of action cause them to for a time lose their normal alkalinity; once a spot has thus become invaded by uric acid, the irritation is always liable to be kept up and repeated until a serious and extensive lesion has been produced.

In acute rheumatism, the liability of the endocardium to friction, percussion and strain accounts for the greater frequency of endocarditis as compared with pericarditis. As the result of thickened, scarred valves of the heart, the latter becomes enlarged, weak, and unable to force the blood to the extremities or to the kidneys; the extremities become cold, and perhaps gangrenous: the watery portion of the blood accumulates in the tissues instead of being excreted by the kidneys, general anasarca ensues and death closes the scene.

I have endeavored to portray one of the serious results of taking into the system and retaining an excess of urates. I can not refrain from raising my voice against introducing urates into the system in large quantities by taking into the stomach meat, especially extracts—which many physicians prescribe—containing 63 grains of urates to the pound; tea, 175; coffee, 70, and cocoa, 59 grains to the pound, as well as many other foods and drinks containing a less amount.

It can be readily demonstrated that man was not intended for a carnivora. He can not form ammonia to neutralize the acid in the system, neither is his blood so strongly alkaline as that of the dog and other carnivorous animals. Therefore, if we would be happy, cheerful, and enjoy the best of health, we should leave out of our diet all foods and drinks containing a large amount of urates, and live on a vegetable, cereal, fruit and milk diet.

One word in regard to treatment of rheumatism and we close. When a case is seen early, before the urates have attacked the joints and all fibrous tissues so acutely, salicylate of soda, salicylic acid from ol. gaultheriæ and various salicylic compounds, have all proved more useful in my hands than any other remedies. But after the urates have entered the joints and fibrous tissues of the muscles, no medicine that I have ever found as yet will remove them in less than four to six weeks or until the acute inflammation subsides by limitation.

CURIOUS FACTS YOU FIND IN GENERAL SURGERY.

BY LUCIEN LOFTON, A.B., M.D.
PRESIDENT SEABOARD MEDICAL ASSOCIATION OF VIRGINIA AND NORTH CAROLINA.
NORFOLK, VA.

INJURY TO NEGRO'S HEAD.

Not many months ago I was called into the country to see a negro who had been chopped in the head with an ax "during a friendly" bout. I found a seemingly inanimate form, lying prone on the ground, and oozing leisurely from a long wound on the side of the head and face were several streams of blood. The man had received the cut three hours before and nothing had been done to check the flow of blood. Negroes are a peculiar people. Under no circumstances would one have helped this poor fellow, from the fear of getting "mixed" up with the courts, although they were perfectly willing to look on and speculate on the final outcome of everything connected with the case. Upon a closer examination I found that the external temporal and the transverse facial arteries had been entirely severed, besides a number of peripheral arterial twigs. The outer and inner tables of the skull had been crushed, ranging from the upper portion of the temporal bone in an oblong direction, barely grazing the curvature of the malar bone, and covering altogether a gash measuring about 4¾ inches. Internally the middle meningeal artery was severed, while the meninges suffered greatly. I suppose I removed one or two ounces of brain matter, which, owing to compression and laceration that existed, oozed quite freely. The inner table of the skull had been badly shattered and I removed several spicula of bone. The middle meningeal gave me a little concern at first, but was finally controlled by "plugging." How the lateral sinus was lost I suppose applies to a general distinction I make on occasions of this kind, i. e., that there is a special Providence who looks after babies, fools and drunkards. I used plain boiled water while preparing the toilet. A No. 1 fiddle-string was the ligature chosen for suturing the brain covering, while the skin flaps were closed by an uninterrupted suture, with a No. 2 catgut. At the extreme lower portion of the wound, which, when measured after having been closed, fell a fraction short of five inches, I inserted a few strands of gut. I did not even shave the parts surrounded by hair. The man's skin certainly appeared dirty and greasy enough, while the blood-matted hair bore every evidence of being otherwise than aseptic. I applied over the wound a piece of sterilized gauze moistened with a phenol-camphor preparation I use, comprising by weight equal parts of gum camphor, and crystallized phenol, the same being reduced to a liquid by trituration. Over this a bushy piece of plain sterilized gauze was placed, and an external bleached-cotton bandage. The man was put to bed in somewhat of a weakened condition. The next twenty-four hours was passed pleasantly, without a rise of temperature, and practically no soreness. In forty-eight hours he was on his feet, and in twelve days he had resumed his position as a saw-mill hand. On the fourth day I gave the wound the second dressing. It was clean and free from edema, and had no odor. I dismissed him with the third toilet, and his recovery was without the slightest interruption. During the process of the initial dressing I administered, hypodermically, ¼ gr. of morphin sulphate, in connection with 1/60 gr. of strychnin nitrate, besides a little brandy, which was most graciously received.

I watched the man carefully for seven months and, seeing him only about a fortnight ago, he said he had never had the slightest impediment of any description, not even a headache or a twitching eye. Owing to the destroyed bone-tissue the full internal relationship existing between the layers of skull have never been replaced, and on palpation a well-marked indentation is felt.

This is a remarkable instance in general surgery, and while the final result is peculiar indeed, it also in a degree demonstrates what a lack of unnecessary probing and non-meddling will accomplish. If this had been a white man, no doubt he would have died. Just why such recoveries take place in negroes is a psychologic study.

There is one thing I wish to call to the attention of the medical profession, and that is, where you have a lowered vitality resulting from shock and especially hemorrhage, and where it is inconvenient or impossible to administer a saline injection, use small doses of strychnin. I have seen many lives sacrificed by giving large doses of this.

BROKEN RADIUS AND UNCONSCIOUS OF IT.

A negro laborer came to my office and, exhibiting his forearm, said that he believed he had "caught cold" in it and it had resulted in rheumatism. On examination I found the radius entirely separated and got a distinct crepitus. I called his attention to the characteristic click. "Well," said he, "I believe I do remember while sawing wood about ten days ago that my arm gave way." From that time until he came to consult me, he had steadily held his position as "sawyer," working twelve hours a day with little or no inconvenience. Continual usage had made it sore and that is why he came. His parents had died with pulmonary consumption, also a sister and brother. His personal history might have been syphilitic, but owing to his disconnected story I left the question open. His long bones elsewhere were normal, as also were the short and flat ones. No specific history of syphilis was noted. There seems to have been a transverse fracture which was complete. He denied any fight, fall, wrench, or trauma. I tried in vain the suspected friability of other bones, but found in every one evidence of perfect soundness. His general condition was good, and to all appearances he was a fine specimen of manhood. No valvular trouble existed, and no lingering diseases of any kind were elicited. On manipulation little if any pain was evinced. I adjusted the parts, and immediately applied three 1-inch strips of adhesive plaster around the forearm. This held the bones firmly in place. Next I applied a snugly-fitting veneer roller splint, and throwing around this additional strips of plaster, I ultimately made the splint more secure by an outer, spiral cotton bandage. I purposely avoid a "pistol-handle" splint for cases of this kind. *It may be warranted in some rare instances,* **but Nature** has to do a great deal after you remove it. I [illegible] **from** practical experience, for I [illegible] sona [illegible] to swell the list of reported Colles' fractures. Many use plaster-of-Paris dressing, which I admit is a very nice way to put up a fracture of this kind, but it has its defects by being hard to regulate flexion and extension of the fingers, while the thumb fares better than its neighbors. Then again it is quite difficult to remove, in case of accident or for a change. All fractures should be kept in sight of the surgeon if possible. Sometimes nothing can be substituted for the plaster-of-Paris splint, and here they are useful. Any one trying a simple splint on Colles' fracture will be surprised at the result.

I dismissed the patient in twenty days. In five thereafter he again began the task of sawing down trees, and he reports his right arm as good as it ever was. The only internal treatment I gave was a U. S. P. lime-water to be drunk in place of all other water for thirty days. There was no "silver fork" deformity, no pain at the seat of injury, or no perceptible displacement of the bones. All in all, this was very interesting and unusual, and up to this writing, which covers a period of months, no recurrence of the trouble has been noted.

CORNU CUTANEUM.

In the early part of 1897, a man of about 70 years, came to me, presenting rather a peculiar growth on the upper portion of his face, immediately in front of the right auricle. He stated he had had it on the face for nearly a half decade, but by an occasional paring the growth was kept in abeyance. No trouble or pain had arisen as a result of the excresence, and its being unsightly was the cardinal excuse for wanting it removed. I removed it under cocain anesthesia, curetted the core, and brought the flaps in approximate relation. The base was in close proximity to the temporal artery. The wound healed kindly within a week, but I saw my patient some three months afterward, and springing from the original core was another horn. This was removed together with all horny cells, which resulted in a complete enucleation.

Sailors are especially prone to cutaneous horns, although this man had never followed a seafaring life. The less pigment you find in people, the more susceptible they are to all manner of cutaneous affections. This applies to verrucæ, various dermal tumors and hypertrophies generally. Unless you thoroughly remove every vestige from which cutaneous horns grow, they will return and often multiply, much to your and the patient's chagrin.

Practically very little is written regarding the pathology of cornu cutaneum. Hyde, among others, claims horns are composed of more or less concentrically disposed epidermal cells, with nuclei as a rule. They may result from friction, pre-existing lesions and heredity, though the latter is a mooted question. The tissue is as genuine a horn growth as you find in the lower animal, notwithstanding many contrary opinions.

SHATTERED HUMERUS AT THE LOWER THIRD, INVOLVING THE JOINT.

Two years ago a mother, attended by a delegation of relatives, friends and acquaintances, brought to my office a white boy about 10 years of age, with a broken and shattered humerus at the lower third, which involved the elbow-joint. The boy had received the injury while playing, and attempting to scale a high plank fence he lost his balance. The bone was badly broken, and when I made the initial examination, it had been done three weeks. The family had waited for the inflammation to subside, as the mother very evasively remarked. Spiculæ of bone almost penetrated the outer skin-covering, and were making good headway for an external opening when I first saw it. The next day I operated, with the assistance of two colleagues. On cutting down I removed several pieces of chipped bone, and during this process a dark bloody exudate ran freely. The portions of bones already noted, that appeared immediately under the integument, were removed easily with bone forceps. The entire shaft of the humerus was traversed by considerable inflammation, but the lower surgical third was more or less involved in the fracture, and made it necessary to do some wire suturing. Although the joint was involved to the extent of partial ankylosis, due to a deposit of fibrin resulting from the trauma, it was carefully opened, washed out with warm sterilized water and closed, without drainage. The same applies to the fractured humerus. Both places healed by primary intention, without any trouble, and in the course of a month the splint was removed and the member allowed perfect freedom. A slight anklyosis existed for some six or eight weeks, but this was easily reduced by repeated hot-air baths at a temperature of 300 F. The boy was seen six weeks ago, and his arm appeared perfectly sound, with little, if any, sign of the operation remaining. Chloroform (Squibb's) was the anesthetic administered, and only one-half ounce was used, the operation being completed in eighteen minutes.

In closing I wish to make some comment on opening joints. With regard to joints treated surgically within the past fifty years, a great deal of importance has been given the propriety of freely operating in and about articular surfaces. I think each year brings us nearer to the point of confessing that joints may be invaded with impunity and with the knowledge of no ill results. Such at least has been my experience. A good many orthopedic men to-day decry the reckless manipulation of joint surfaces, which I will concede is orthodox surgery; but I think the reason has been, not so much on account of the mere invasion of joints, but because such corrosive fluids have been used hereabouts and within them, that bad results have obtained. It is bad surgery to use any corrosive antiseptic in an articular surface. Ninety per cent. of carious sockets will recover by injecting sterilized water, and at the same time you will have fewer ankylosed joints to deal with. I believe firmly in the limited value of antiseptic surgery, but it is carried too far.

230 North Park Avenue.

PATHOLOGIC CHANGES OCCURRING IN THE UNOBSTRUCTED NOSTRIL IN CASES OF DEVIATED SEPTUM.*

BY E. LARUE VANSANT, M.D.

Professor of Diseases of the Throat and Nose, Philadelphia Polyclinic; Physician to the Throat, Nose and Ear Department of the Howard Hospital, etc.

PHILADELPHIA.

When only one of the nasal chambers is obstructed by a notable deviation of the septum, the immediate effect produced is a relative increase in the amount of respired air passing through the unobstructed nostril. This increased respiration through the unobstructed nostril causes increased functional activity of the mucous membrane and deeper structures, in order that the inspired air may be properly warmed and moistened. Such increased functional activity necessarily causes hyperemia of the parts, particularly of the tissues constituting the middle and inferior turbinal bodies. The increased blood-supply, together with the enlargement and proliferation of the over-acting mucous glands and cells of the deeper tissues, soon leads to enlargement from hyperplasia of the tissues involved, which may be regarded as a true compensatory hypertrophy. This change is first and most markedly shown in the tissues opposite the greatest concavity of the deflection, which in the majority of cases is on a level with the lower turbinal body. Such hypertrophy may continue so far that it becomes excessive, causing considerable obstruction of the nostril. This compensatory hypertrophy of the tissues, through increased activity of function, is not peculiar to the nasal chambers, for it has been observed in many other organs of the body, as, for instance, the marked enlargement of a kidney after the destruction of its fellow. Such tissue, however, by reason of its hyperemia and excessive functional activity, and, when in the nasal chambers, its exposure to mechanical irritation from dust, vapors, etc., is peculiarly liable to the inflammation. These inflammatory changes cause an increase in the interstitial connective tissues, with a gradual destruction of the glandular appendages, which eventually leads to an atrophy of the affected parts. This atrophy is usually first noticeable in the lower turbinal, and continues until the affected nostril is much widened in its lower and middle meatus. This increasing atrophy and lessening functional capacity of the lower turbinal causes a greater demand on the rest of the glandular tissues of the affected chamber, and the middle turbinal soon commences to enlarge and extend downward in the effort to fulfill the great demands on its function. The inflammatory changes, before noted, in the lower turbinal, now, in turn gradually occur in the middle turbinal. Its anterior end, being particularly liable to irritation, frequently becomes granular and polypoid.

---

*Read before the Eastern Section of the American Laryngological, Rhinological and Otological Society, Philadelphia.

The mucous membranes lining the accessory sinuses are from the first affected by the increased function and become hyperemic, irritated and inflamed. Sooner or later, as the various inflammatory changes take place, the nasal chamber becomes septic. This usually occurs after the atrophy of the turbinals is somewhat progressed. The parts then present a picture of marked atrophy of the lower turbinal, atrophy associated with polypoid degeneration of the middle turbinal and mucopurulent discharges from the accessory sinuses. Thus the pathologic changes in the unobstructed nostril, in a case of marked deviation of the septum, may be divided into three stages. The first stage, that of hyperplasia of the tissues from over-function, is a compensatory hypertrophy; the second is that of atrophy from inflammatory changes, and the third that of atrophy associated with sepsis of the nasal chamber and accessory sinuses.

When the septum is but slightly or moderately deflected, the pathologic changes cited are present in a much less degree, for both nostrils still respire, although not to an equal amount. In such moderate deflection a slight compensatory hypertrophy of the turbinals of the more open nostril may be the only pathologic change noticeable.

1929 Chestnut Street.

Electric Treatment of Neuralgia.—Velasco describes (*Revista de Med. y Cir. of Havana*) several cases of severe neuralgia of the lower jaw, etc., cured in a few séances of galvanization with the positive pole applied to the painful region. In one case the pain was so severe that speaking and mastication were both impossible, swallowing very painful, the escape of saliva from the open mouth continuous. One treatment produced a great improvement and cure was complete in 3 months.

DILATATION OF OPHTHALMIC VEIN: CURE.*

BY R. ORTEGA, M.D.

Chief Surgeon Mexican International Railway.

CD. PORFIRIO DIAZ, COAHUILA, MEXICO.

I will give a brief résumé of an operation which I was called on to perform in a case of dilatation of ophthalmic vein, and which, to my gratification, proved successful.

My patient was a resident of Eagle Pass, Texas, a woman of 32 years of age, married, vigorous, and the mother of five children. The first of these died at the age of 5 months, of hydrocephalus, the second at 2 months, of "fever," and the third at 17 months, also of "fever." The fourth and fifth, both girls, aged respectively 4 years, and 5 months, are now living and in good health.

The patient, referring to the illness in which my services were solicited, stated that on Dec. 21, 1898, she was attacked by la grippe; from this date a humming began in her left ear; Jan. 1, 1889, she noticed that the sight of her left eye was becoming weak, and shortly succeeding that time the affection of the conjunctiva of that eye commenced.

I first saw her on January 18, and after obtaining from her the data given above, I proceeded to the thorough examination which the case demanded, finding a noticeable exopthalmic tumor of the eyelids and neighboring regions, accompanied by immovables and livids, with the conjunctiva strongly congested, and forming a burning wheel between the eye and the lower eyelid, which was so depressed as to prevent its elevation. The tension, the cornea and the iris were normal. (I did not make the ophthalmoscopic examination, because I had not the instruments with which to do so with me, nor, indeed, did I intend doing so afterward, because of the patient's delicate condition, and the lack of proper surroundings.) This, in addition to the very intense pain which she complained of, stating that it extended to the whole side of the head and face, and even to the nape of the neck, explained to me the insomnia, want of appetite, etc., from which she was suffering, and convinced me of the existence of a tumor on the back of the eye.

Suspecting that it might be a recto-ocular abscess, I proposed an examination under the influence of chloroform, to which, however, she would not accede. I then prescribed iodid of potassium, two grams daily, and bichlorid of mercury in lukewarm applications, myself administering an injection of morphin with atropin.

On the next day, the 19th, her condition was worse. I was then compelled to say that if they persisted in refusing to agree to the operation I had proposed, I would feel it incumbent on me to withdraw from the case. They agreed, therefore, to come to some conclusion in the matter within twenty-four hours. In the meanwhile I prescribed a continuation of the treatment then being tried, with the addition of two portions of chloral of two grams each, to be used in case the pain became intolerable. On the 20th, Dr. Duggan administering the chloroform, I introduced the bistoury in the external angle of the eye, coasting the surface of the socket as far as the cuspis (caruncle), which resulted in the flow of about sixty grams of blood. Next I made a careful examination with a blunt stiletto, but found no pus, and then made some shallow incisions in the conjunctiva, ordering the continuation of the former treatment.

---

*Read before the American Academy of Railway Surgeons, Omaha, Neb., Oct. 12-13, 1899.

When the patient recovered consciousness, she expressed great relief, which improvement was maintained for two days, when her condition became worse than it had been before. Suspecting, then, a venous dilatation, and, also, as the vision of that eye was lost, a hypopyon having appeared with the additional symptoms of sympathy in the other eye, I proposed enucleation, which was agreed to.

On January 30, Dr. Duggan again administered the chloroform, and I availed myself of the Volkmann spoon No. 1, to load and overset the ocular globe, because the nippers failed to grasp either conjunctiva or the tendon which was tearing it, and the spoon enabled an easier enucleation. I next proceeded to the examination of the cavity, and ascertained that there was dilatation of the ophthalmic vein of about one centimeter. I then abandoned the idea I had of binding the vessel that formed the aneurysm, as, having been prevented from giving the other treatment proposed by the authors, I was forced to leave matters as they were, which I particularly regretted, because, not only would the dilatation increase greatly through need of compression, but also the troubles consequent thereupon would follow, and probably result in the need of a further posterior operation. Fortunately, however, both for my patient and myself, I remembered the advice of Dr. G. Laurens, when the lateral breast comes open when ascending the mastoid prominence, and this seemed to be a similar case, notwithstanding the fact that he referred to the opening of the breast by accident, while in this instance it was through intent, besides which I had the advantage of being able to compress it by reason of a bony surface behind the vessel. The resolution was quickly followed by the operation. With a compress of bichlorid gauze in my left hand, and the spoon in my right, the dilatation was pulled out, producing a copious flow of blood. This, however, did not alarm me, as I expected and was prepared to control it, and did immediately, by compression with the gauze I held in my left hand. I immediately requested Dr. Duggan to assume charge of the compression, while I proceeded to thoroughly clean the operated part. I then raised the level of the compression above the borders of the orbit, placing over these a silver dollar to equalize the pressure at the center, and admit of free circulation in that locality. I then placed a thick wrapper of cotton and antiseptic bandage thereon.

After twelve days I removed these appliances, which had been retained all the while without producing any disagreeable odor, through my having kept them dampened with a solution of formol. There was a sudden hemorrhage, caused by the tearing of some fleshy blood clots. I applied a little glutol with fresh wrappers of gauze and cotton to the outside, which I held in place with a tight bandage. On February 17 I again removed this, without further flow of blood, applying a little glutol as before in the socket of the eye, with a gauze covering, but without a compressing bandage.

On February 20 I was again called in, the patient complaining of a slight pain, which she feared would increase. With the object of relieving this, and hastening the cicatrix retraction, I prescribed the insertion of fifteen to twenty drops of a weak solution of tannic acid and cocain. On the 28th I found everything progressing excellently, the patient informing me that she had discontinued the use of my last prescription after two days, because she had ceased to experience the trouble. Not a drop of pus was found after the removal of the bandages.

There remains at present, as the only trace of the severe illness, a slight humming noise in the ear, which she states has already greatly diminished, and during a good portion of the day disappears entirely, enabling her to sleep without difficulty.

As another incident, which may be of interest, I would mention the following: On Oct. 17, 1896, two partners and myself were called into consultation with Dr. Duggan, who was attending a brother of the patient referred to above. Having discovered that he was suffering from venous varices of the floor of the mouth, we suggested intervention, to which the family would not agree. He died the following day of asphyxia. He was 32 years of age.

Deductions.—It is undoubtedly true that the members of this family are predisposed to vascular dilatations. It is probable that the dilatation of the vein was somewhat lengthened in the interior of the skull, which produced the humming of the ear mentioned before. The cure was doubtless due to the suppression of the more extended part of the vein, and the formation of coagulated blood in the balance of the dilatation, and the presence of the gauze in the open extreme, and the lengthening of the coagulation to the walls of the vessel, which was proved by the complete cessation of the humming noise.

SOME OF THE ASPECTS OF RENAL INADEQUACY FROM A NEUROPATHIC STANDPOINT.*

BY H. A. TOMLINSON, M.D.
SUPERINTENDENT ST. PETER STATE HOSPITAL.
ST. PETER, MINN.

The subject of renal inadequacy, a term first used, I believe, by Sir Andrew Clark, has become of more and more importance as we have grown increasingly familiar with the effects of autointoxication, and have learned to recognize how great a part the retained products of metabolism—especially those which result from incomplete retrograde change—play in the inception of diseased conditions heretofore attributed either to other causes or looked upon as arising *de novo.* This condition of the kidneys, I believe to be represented in the inability of these organs to completely eliminate the waste products of the body, either because they are themselves the seat of disease or because the products of destructive metabolism come to the kidney in such form chemically, as to be unable to pass through the renal epithelium or to complete their elaboration into those compounds which can be secreted and excreted by the functional portion of the tubules. There are many ways in which this inadequacy can be brought about, but let us first consider the function of the kidney and its relation to the welfare of the rest of the organism. If we accept the current teaching of physiology as to the structure of the epithelial lining of certain portions of the tubule, the kidney is a secretory as well as an excretory organ and has something to do with the elaboration and reduction of the compounded elements which are brought to it by the blood. Next to the brain, the kidney receives a proportionately larger and more direct blood-supply than any other organ, and the blood-vessels are so arranged in their final distribution as to expose the largest possible surface in contact with the functional part of the organ. It receives its nerve-supply from the same sources, both ganglionic and spinal, as the other abdominal viscera, and is surmounted by a glandular structure of whose function we know nothing accurately, except that in its blood and nervous supply it is intimately associated with the kidney. It is also worthy of note that the suprarenal body receives, as a part of its nerve-supply, filaments from the pneumogastric and phrenic nerves. Finally, it is important to remember that each pyramid, with the cortex above it, is practically a separate kidney, capable, so long as its blood-supply is not cut off, of performing all of the functions of the organ as a whole. Like the brain, the kidney has a function which is absolutely essential to existence, and this function can not be vicariously performed except to an extremely limited extent. Besides, from the nature of the secretion and excretion from the kidney, any interference with the normal performance of its function will necessarily have a more disastrous effect on the rest of the organism than would disturbance of any other one of the vegetative processes. Furthermore, the intimate association of the kidney through its nerve-supply, not only with the abdominal viscera, but also with the more directly vital processes of circulation and respiration, shows how important its function is to the general welfare of the organism. Without going into the details of the chemistry of the urine and the nature of its constituents, it suffices for my purpose to state that, in both health and disease, those constituents whose elimination is most essential to the welfare of the organism appear in combination with uric, phosphoric, sulphuric, and hydrochloric acids, and as urea representing nitrogenous waste, the relative amounts of these substances eliminated during the twenty-four hours, and their proportion to each other, indicating not only the degree of functional activity of the kidneys, but also the nature and completeness of the changes going on in the organism as a whole. When we take into consideration the intimate association of the function of the kidneys with the vegetative organs, as shown by their intimately related nerve-supply, and indirectly by their association with the general nervous system, we can realize how important the function of these organs is to the welfare of the general organism, and conversely how they in their turn must necessarily be subject to disturbance of their function and normal rate of activity by extra demands resulting from derangement of some one of the vital functions due to visceral disease, excessive somatic change resulting from overwork or overstrain, involvement of the nervous system through impaired nutrition or excessive mental activity, or all of these causes acting together to interfere with metabolism and render incomplete the formative process in the products of retrograde change which it is the function of the kidneys to eliminate. It is a well-known fact in physiology that the activity of the function of the kidneys is greatly influenced by the amount of blood circulating through them, and that the amount of blood in them may be so considerable as to materially increase the size of the organ; while at the same time the tension of the blood-vessels may be so great as to seriously reduce the functional activity of the kidney or check it altogether. The same result may also be produced by vasomotor paresis. It has also been shown experimentally that the functional activity of the kidney may be checked or arrested by disturbance in the nervous system, without the presence of any diseased condition in the kidney. The aberration and sometimes abeyance of function in the kidneys as seen in hysteria, is well known, in some cases the secretion of urine being completely suppressed for considerable periods, while in others there will be polyuria, and both of these conditions occurring without apparent physical cause adequate to produce them, unaccompanied by any of the symptoms usually associated with anuria or polyuria.

---

*Presented to the Section on Neurology and Medical Jurisprudence, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Two individuals, apparently equally healthy, may sit down to a hearty meal, each one eating of such dishes as he enjoys. Both may be called upon immediately afterward for some unusual exertion, either mental or physical. The one will have an attack of acute indigestion, accompanied by the usual symptoms; the other may or may not have these symptoms, but he will have others. He may become stupid, suffer from intense headache with conjunctival injection, slow pulse with flushed face and body surface, respiration more or less labored. Mentally the patient will be confused, irritable, restless, unable to think or apply himself. After a time he falls into a heavy sleep and awakens comparatively free from discomfort, with the exception of some dizziness and soreness of the scalp. Instead of this symptom-group, there may be another. In the midst of some occupation he will become dizzy, the action of the heart will become rapid and feeble, the surface of the body become pale and covered with sweat, and the patient tumble over in a syncopal attack. He may recover rapidly from this or remain weak and confused for several days; the heart's action continuing rapid and weak, and the pulse feeble and of low tension. In either case there will be, during the persistence of the symptoms, diminution of the secretion of urine, and their disappearance will be accompanied by copious urinary discharge. The examination of the urine will possibly disclose the presence of albumin and, microscopically, a few leucocytes, but usually all that is found is an increase in the amount of phosphoric acid and sulphates, with diminution in the quantity of chlorids and urea. There may or may not be an increase of indican. If the symptoms disappear within forty-eight hours, and the constituents of the urine assume normal proportion, it is safe to assume that we are dealing with a temporary form of renal inadequacy, resulting from imperfect performance of the function of the kidney on account of renal congestion, or engorgement following vasomotor peresis. It can be easily understood how the blood, overloaded with the products of retrograde change, some of which are not completely reduced, will act as an irritant to the general nervous system, producing either vasomotor stimulation with increased tension, or paresis to be followed by blood stasis, and either of these affecting the kidney with its relatively large blood-supply, thus interfering with elimination and adding to the intoxication. If the kidney structure is intact, there will be a gradual resumption of function with increased elimination. But should the kidney be the seat of degenerative change and the vitality of the organism lowered by disease, the effect of intoxication will be more profound, the interference with the function of the kidney greater, with the resulting convulsion followed by paralysis, from which there is slow recovery; or there may be, instead, coma, vasomotor paresis, dilatation of the right heart, pulmonary edema and death. In some people these outbreaks are occasional and short-lived, but there are many others in whom they are of frequent occurrence. In this class of cases the renal inadequacy is habitual and accompanies any unusual or extended effort, either mental or physical, but especially mental. The patients do not seem to be so much the victims of nervous instability as lack of nervous force, with a limited potentiality for sustained effort. In these people the renal inadequacy may be said to be congenital. I have never had an opportunity to follow such a case to the end as yet, because in all with whom I have been familiar I have either failed to get a post-mortem or other conditions have existed which have modified the changes found in the kidney. Reasoning from analogy, however, such patients should present a purely atrophic change with shrinkage of the kidney, destruction of the epithelial lining of the tubules and capillaries, but no increase of connective tissue; approximately, the same conditions that exist in the so-called granular kidney, which to my mind represents the congenitally defective kidney. According to West[1]: "Granular kidney is a disease of great importance on account of its frequency—a frequency which is by no means adequately recognized. Post-mortem it is often discovered when not suspected. It is often in itself a cause of death, even of sudden death, and it often explains why death has happened in other diseases which otherwise might not have proved fatal. During life it is often discovered unexpectedly if looked for, it is often overlooked if not suspected, and it often explains a case which has been a puzzle until granular kidney gave the key. For all these reasons granular kidney is not only one of the most interesting of diseases but also one of the most important." My own experience coincides with this declaration, but my observations suggest a different explanation of the origin and variations in the extent and nature of the changes in the kidney. The probability of primary defect in the structure of the kidney is shown in the persistence of lobulation in the kidneys of the adult. It is quite a common occurrence in our post-mortem work to find lobulated kidneys, and in some the lobulation is as marked as that usually found in the calf or pig; and further, the cortex of these lobulated kidneys is disproportionately thin. What the exact histologic difference between such a kidney and a perfectly developed one is, it is practically impossible to determine, because it would be only by the merest accident that an opportunity might occur to study such a kidney free from gross secondary changes. Another argument in favor of the existence of primary renal inadequacy of varying degree is the fact that while the conditions of life are practically similar for all people subject to the influence of a uniform environment, only a comparatively small number out of any given group will suffer either from simple renal inadequacy or the more conspicuous forms due to degenerative changes in the kidneys. Only a small proportion of the cases in any given epidemic of one of the exanthematous diseases suffer from nephritis, and they are not necessarily the severe ones. Even those conditions resulting from the exigencies of modern civilization, with the strain of industrial and social competition, which are reckoned as the most common causes of degenerative disease of the kidneys, while practically universally operable, really disastrously affect only a comparatively small number of those who are subject to their baneful influence. Again, in the form of renal inadequacy which results in puerperal eclampsia, how few women there are out of the whole number confined during a given period who will have convulsions! It would also be interesting to know the relative number of deaths following puerperal convulsions, occurring among primiparæ and multiparæ, and the number of cases in each class in which the kidney showed evidence of antecedent degenerative change. From an analysis of the cases coming to post-mortem in this hospital during the past seven years, I have found that next to the brain the kidney is more often and seriously involved in the degenerative process than any other organ, and that the extent of the degeneration in the kidney as well as the persistence of lobulation is always in proportion to the same change in the brain; also that the more marked the defect in the brain development in the individual, the earlier will be the changes in the kidney and the more certain the patient is to suffer from the effects of renal inadequacy. Again, the law governing the form in which the degenerative process will be manifested, as stated by me in another connection[2], applies equally well and explains why in one case we find a purely atrophic change involving the functional portion of the kidney—in another a structural change resulting in connective tissue increase primarily, with involvement of the functional portion of the kidney, secondarily. This is why, in so-called "granular kidney," the kidney is sometimes small and at others large, while the clinical picture and result of uranalysis is the same. In one case the change is atrophic, especially involving the tubules with only apparent increase of connective tissue, and the other hypertrophic with connective tissue increase. These are the same changes as are found in the kidneys of old people, the difference being that in the one case there is a normal senescence more or less modified by the way the life of the individual was conditioned, and in the other a premature senescence modified by the degree of defect in the individual and its influence in limiting the functional and structural potentiality of the organ. In considering the availability of the class of cases found in an institution of this kind for study, it seemed to me that they offered an opportunity to elucidate functional and degenerative changes in the kidney not to be found among the population of a general hospital, because the existence of degeneracy and its results would exaggerate the changes found in the more normal individual, thus magnifying them and making them more conspicuous, while at the same time the régime of the hospital, uniformity of diet and freedom from excess, together with the simple vegetative existence led by this class of patients would free the subjects of study from the complications resulting from the exigencies of social and industrial competition; and the prolonged existence of the patient would allow of a more comprehensive and well-defined development of the pathologic changes, thus making the clinical picture more clear and definite and the morbid anatomic changes more complete.

During the four years from Aug. 1, 1894, to Aug. 1, 1898, there were admitted to this hospital, as new patients, 618 men and 488 women, total 1106, and in all of these a careful examination was made at intervals during the first month of the residence of the patient in the hospital. The following table contains an analysis of the changes in the urine:

	Men.	Women.	Total.
Specific gravity increased	338	210	548
Specific gravity decreased	76	104	180
Urea increased	26	12	38
Urea decreased	337	260	597
Indican increased	*203*	*162*	*365*
Albumen present	268	204	472
Sugar present	138	62	200

A complete quantitative estimate of the amount and relative proportion of the different salts in the urine was not made during *the entire quadrennial period, so I have* reserved for a separate table the analysis of a series of cases in which changes in the kidneys are known to have taken place. When it is taken into consideration that in the large majority of these patients there was nothing in the history or symptoms at the time of admission to the hospital to indicate that there was any renal disease present, that about 60 per cent. of them either entirely recovered mentally or sufficiently to enable them to get along outside of the hospital, that the death-rate among them was approximately 3 per cent., while out of the whole number considered—1106—the specific gravity of the urine was decreased in 180, urea was diminished in quantity in 597, albumin was present in 204 and sugar in 200 cases, it will be seen that apparently considerable interference with the function of the kidney may be present without serious degenerative change in the organ and that these diseased conditions may entirely disappear, leaving behind them no evidence of chronic renal change. At the same time it is a fact in our experience that when a patient comes to the hospital, in whom uranalysis shows marked evidence of renal inadequacy, the disappearance of the acute mental symptoms almost invariably goes on *pari passu* with the restoration of the constituents of the urine to their normal relation, both as to quantity and quality. In all of the cases of acute delirium admitted to the hospital during the past two years, the uranalysis has shown marked evidence of renal inadequacy; while in those cases where the termination has been fatal, either uremia has been the immediate cause of death, or else bronchopneumonia or pulmonary edema, with marked degenerative change in the kidneys. When it is taken into consideration that the symptoms associated with uremic poisoning, independent of mental disease, are practically the same, including restlessness, insomnia, muscular twitchings, headache, low muttering delirium, and if fatal, coma, pulmonary edema and death, it seems to me a rational conclusion that while in the one case the involvement of the nervous system antedated the renal inadequacy, and in the latter the disease of the kidneys brought about the involvement of the nervous system, yet in both cases death resulted from the inability of the kidney to perform its function. The following table shows a comparison between a series of cases in which there was marked evidence of nephritis clinically and another series in which no such evidence was apparent. In the thirty-eight patients presenting clinical evidence of nephritis, the symptoms varied from emaciation with indigestion, constipation, edema of the eyelids and ankles, to convulsions, coma and paralysis. In one patient, in whom a recent examination of the urine discovered nothing abnormal, there had just been recovery from a severe uremic attack, ushered in by convulsions and these followed by a hemiplegia with profound stupor. In another, who has since died and where the necropsy disclosed extensive degenerative changes in the kidneys, the urine was comparatively normal for a month before death, although he was helpless from a hemiplegia which the post-mortem examination showed to be uremic and not hemorrhagic in its origin.

---

[1] West: "Lettsomian Lectures," London Lancet, Feb. 11. 1899.

[2] Tomlinson: "Insanity and Phthisis, their Transmutation, Concurrence and Co-existence. Jour. of Nervous and Mental Disease, October, 1895.

The following table shows the result of a careful examination of the twenty-four-hours-urine in eighty-three selected cases. In all of these the diet and general environment of the patients was practically uniform at the time when the observations and examination of the urine was made:

EXAMINATION OF URINE.

	Clinical evidence of nephritis. 38 cases.	No clinical evidence of nephritis. 45 cases.
Quantity increased	2	3
Quantity decreased	29	28
Quantity normal	7	14
Specific gravity increased	19	16
Specific gravity decreased	9	9
Specific gravity normal	10	20
Urea increased	4	8
Urea decreased	7	11
Urea normal	27	25
Phosphoric acid increased	7	7
Phosphoric acid decreased	4	9
Phosphoric acid normal	26	29
Sulphates increased	24	25
Sulphates decreased	13	20
Sulphates normal	1	0
Chlorids increased	14	12
Chlorids decreased	4	12
Chlorids normal	20	21
Albumin	3	0
Sugar	7	0

The comparison made in the table apparently negatives the assumption with which I begin this paper, but really it does not! In the first place we must consider that these patients were all placed under practically uniform conditions before the examination of the urine. Next, in placing them in one or the other category, only those symptoms which are recognized as significant of nephritis were considered. I quote from a paper of Dr. Richard C. Cabot[3], as follows: "It will be readily admitted that the means at present at our disposal for the diagnosis of nephritis are far from satisfactory. On the one hand the autopsy may reveal a nephritis in a case which during life showed no albumin in the urine; on the other hand, we may have albumin and casts and yet the autopsy reveal no nephritis. The estimation of urea or of total solids can no longer have for us that clean-cut significance which once it had. For it has been abundantly proven that urea may be greatly below normal for years and yet no uremic paroxysm occur, while on the other hand a uremic convulsion may come upon a patient out of a clear sky when the urine contains a normal amount of urea."

Finally, in all of the patients suffering from renal inadequacy, in whom there has been a definite, well-marked attack of uremia, there was, in the beginning of the attack, decrease in the quantity of urine, decrease in the percentage of urea and chlorids with increase in the percentage of phosphates and sulphates. Besides, several placed in the category of those furnishing no clinical evidence of nephritis showed this same disturbance of the relative proportion of the solid constituents of the urine, and one of these has since died. At the necropsy, marked evidence of advanced degenerative change was found in the kidneys, although there were no clinical evidences of nephritis before death.

The following cases illustrate the varying aspects of renal inadequacy in its graver forms:

M. W., aged 58 years, a widow, was the victim of circular insanity. She had spent the greater part of the past twenty years in the hospital and was last admitted Sept. 4, 1896, said to have just recovered from typhoid fever. The action of the heart was irregular and intermittent, ankles edematous, and appetite and digestion impaired. She was constipated and could not sleep. At this time the urine was decreased in quantity, contained 1 per cent. of albumin, urea 1 per cent., chlorids 8 per cent. Microscopically there was renal epithelium. She improved rapidly, however, and was in fair health until in June, 1898, when she became weak, stupid, took nourishment poorly and complained of precordial distress. The skin was cold and clammy, the lips and finger ends cyanosed. The twenty-four hours' urine at this time amounted to 900 c. c., sp. gr. 1031, a trace of albumin.

---

[3] Cabot: "The Use of Methylene Blue in the Diagnosis of Renal Disease." St. Paul Med. Jour., February, 1900.

urea 3 per cent., phosphoric acid .2 per cent., sulphates 20 per cent, chlorids 5 per cent. The microscope showed granular epithelium and leucocytes. The patient grew weaker, the area of cardiac dulness increased, there was a murmur at the apex, systolic in time and transmitted to the axilla, also a systolic murmur at the base, and she complained of pain over the sternum. The abdomen was distended and tympanitic, but not tender, the tongue heavily coated, the lips blue, and there were petechiæ scattered over the body and limbs. The temperature was 101 F. in the evening, the pulse rapid and feeble, and she was very stupid. Her physical condition did not change materially during the next month, except that the stupor increased and there was occasional twitching of the facial and flexor muscles of the limbs. The urine became still further reduced in amount, but there was no material change in the proportional amount of the constituent elements. Granular and hyaline casts, however, began to appear. On August 4, the week she died, the sp. gr. of the urine was 1023, there was no albumin, urea was 3 per cent., phosphoric acid .2 per cent., sulphates 1.5 per cent., chlorids 9 per cent. During the last week of her life she had frequent attacks of dyspnea and there was marked decrease in the amount of urine with retention. She took nourishment well, however, until an hour before she died. At 9 a.m., August 9, she became rigid, and passed rapidly into a tonic convulsion. The pupils were dilated but unequal, the urine was passed involuntarily, there was expulsion of frothy saliva from the mouth, and she was cyanosed. In about twelve minutes the muscles relaxed, she gasped once or twice and was dead.

The condition of the brain, post-mortem, was what we have come to consider characteristic in death from uremia. There was increase of cerebrospinal fluid, distension of the pial vessels with dark, fluid blood, the sinuses in the same condition. The membranes and brain were edematous and soggy, the ependyma in the ventricles edematous, especially in the floor of the fourth ventricle, while the blood-vessels were deeply injected and showed well-marked puncta on section of the medulla. The heart weighed 396 grams, the right ventricle was filled with fluid blood, was dilated and its walls thin; the left side of the heart was hypertrophied, the aortic valve incompetent, the other valves healthy. There was marked atheroma of the aorta and it was dilated. There was fluid in both chest and abdominal cavities, and the viscera showed evidence of degenerative change. The right kidney weighed 113 grams; the capsule was slightly adherent. The kidney was lobulated, its surface covered with small infarcts and cyst scars, the cortex very thin, the pyramids illy-defied and the pelvis dilated, The same physical conditions were present in the left kidney. The bladder was empty.

(To be continued.)

Treatment of Epithelial Affections with Formalin.—In the *Deutsche Med. Woch.*, of December 5, Daniel states that he found that if formalin was applied to warts, they soon dropped off, leaving a smooth unscarred surface. Other epithelial affections were treated with complete success in every case: epitheliomata, condylomata, sycosis, etc. Further tests are now in progress, but Daniels considers himself justified in calling attention to formalin as absolutely reliable, easily managed, comparatively painless and leaving no scars, in the treatment of epithelial hypertrophies and the transformation of suppurating affections.

SHOULDER-HUMERO-SCAPULA ARTICULATION.

SOME OF THE COMPLICATIONS AND SEQUELAE ATTENDING OR FOLLOWING REDUCIBLE OR IRREDUCIBLE DISLOCATIONS, WITH A BRIEF REVIEW OF THE VARIOUS MODERN OPERATIVE MEASURES NOW EMPLOYED FOR THEIR TREATMENT.

BY THOMAS H. MANLEY, M.D.
Visiting Surgeon to the Harlem Hospital; Professor of Surgery in the New York School of Clinical Medicine.
NEW YORK CITY.

(Continued from page 800.)

RESISTANCE TO REDUCTION.

One of the remarkable phenomena of shoulder luxations is the inexplicable freak we note here in efforts in reduction. Occasionally we meet with cases which stubbornly resist all our efforts. We have seen some very skilful surgeons utterly fail, others fracture the humerus. It has never been my misfortune to fail to effect reduction when the case has come under my care any time during the first week. I have seen about a dozen, old irreducible cases with fairly good functional results in all.

Thorbone notes that it is a comparatively common experience in hospital practice, to meet with unreduced shoulders of old standing, the patient applying for relief at periods varying from eight to twelve weeks or more after the injury. The condition was not before discovered or the reduction had failed.

Brechet cautions us not to set a case aside as irreducible after our first efforts fail, lest, after muscular spasm passes off and the patient is composed, he may fall into the hands of another surgeon who may very easily replace the bone. Several times cases have come under my observation in hospital service, which had resisted every description of force and manipulation outside, where the bone was very easily reduced by gentle handling. Stimson records an instance in which a man was returned to bed, all efforts at reducing having proven fruitless. After a good night's rest he awoke to find that spontaneous reduction had occurred.

Platt, who has written the latest and best contribution on "Dislocations of the Arm," cites an instance in which manipulation and powerful extension utterly failed to reduce the bone. The man was then sent up stairs to the operating-room, that anesthetics might be given him and renewed efforts made; but when he reached the room, the bone had gone back into place. This was a recurrent case, the humerus having before been dislocated sixteen times.

Stimson advises us to "humor" the muscles in these cases, and never employ great force until all the milder means have been exhausted.[5]

FREQUENCY OF FAILURE IN REDUCTION.

It is interesting to note, in making a retrospect of the literature on shoulder reduction, that about the same proportion of failures to secure reduction occurs now as in preanesthetic times.

ON THE TIME LIMIT WHEN REDUCTION MAY BE SAFELY UNDERTAKEN.

The most noted surgeons of the past, with a few exceptions, recommended that it was unsafe to attempt a shoulder reduction after three months. In modern times, Delbet, Verneuil, and Broca adopt the same limit. Richet sagely observes that if "Dupuytren and Billroth succeeded at a much later date, it was well for their patients."

The number of published cases in which dire results have followed futile efforts at reduction is large; and no doubt but a small proportion of them ever saw light in the medical exchanges.

Kuhn reports five. In one, mortal damage to the axillary artery, gangrene, and death after thirteen hours; a second, a woman of 60, while violent traction was being made, had an apoplectic seizure and died. In a third, a woman of 70, while eight medical students were practicing extension and counterextension, something was felt to give. Death came eighteen days later. On autopsy, rupture of all the brachial nerve cords from their roots in the spinal marrow was found. In a fourth, a woman of 45, injured by the overturning of a carriage, seven students exerted themselves in vain in their efforts at reduction, when the muscular attachments gave way and palsy followed. In a fifth case, a man of 50, although reduction was secured, the brachial plexus was ruptured.

Gibson, Cocks, Hey, Bryant, and several others have detailed the histories of a considerable number of old cases of shoulder dislocation, in which grave accidents have attended or followed reduction.

Kocher remarks that "we meet with more old dislocations at the shoulder than any other joint; the reason therefor being because they occur more frequently. here." This distinguished surgeon observes that "some practitioners still maintain that certain recent dislocations cannot be reduced." This, he says, is by no means the case, as only a proper method is needed to replace any arm recently dislocated. Mr. Platt has recently published the details of seventy-seven cases of shoulder dislocation, all being reducible without arthrotomy. These were all treated by himself at the Royal-Manchester-Infirmary. In thirty-four of the seventy-seven manipulations alone sufficed. Hennequin believes that the age, sex, profession, and vigor of the patient are important factors. With the female, whose tissues are more lax and hence offering less resistance, he believes we may attempt reduction after several months with safety and good prospects of success.

There is a general concurrence of opinion among surgeons that, with rare exceptions, the sooner we undertake reduction, the better. This, however, should not be construed to imply that it is of urgent importance that we proceed *immediately* after the accident, in all cases, to attempt or force reduction, or that ill effects will follow six to forty-eight hours' delay; until "torpor" of tissues has passed off, the patient is composed and reaction has set in. Serious mischief may be inflicted and grave consequences only too frequently follow intemperate haste and the injudicious employment of violent force. We should not forget that our patient is often in a state of shock, that there are no organs vital to life imperiled by delay, and, what is more, clinical evidence proves that many of these dislocations rebellious to immediate force, after a few hours' delay and repose, yield to gentle, persevering manipulation.

Appreciating, therefore, the importance of using discriminating judgment, as to when a considerable degree of force is best tolerated and most judiciously utilized, we can understand the grave or troublesome complications likely to succeed immature, misdirected, or excesssive effort in the reduction of these dislocations.

INCOMPLETE AND COMPLETE FRACTURE IN SHOULDER DISLOCATIONS.

In several fractures contiguous to joints, varying degrees of luxation are commonly found; but there is no dislocation in which fracture is so frequently a consecutive complication as at the humero-scapula articulation. Some of these coincident or consecutive fractures are very difficult to detect. Stimson says that when there is a fracture through the tuberosities with a dislocation, it can not always be detected.

Erill has described a fracture through the coracoid process, in those luxations, where the outer head engages under the short head of the biceps, and its displaced tendon carries the tip of the apophysis with it.

Kronlein, Stimson and others have described a dislocation downward in which the acromian process is simultaneously fractured. Caird has described a recent case which, on autopsy, showed an indentation fracture through the articular head, after a subcoracoid luxation.

TYPES OF FRACTURE COEXISTING WITH OR SUCCEEDING LUXATION.

1. We have good reasons to believe that osseous diastasis, clipping or splitting through the base of the glenoid cavity, a tearing off or *arrachement* at the muscular insertions of the apophyses of the scapula or the tuberal head of the humerus, is not a very infrequent complication of various luxations at the shoulder.

No such coincident lesions have ever come under my own observation, although I have several times seen cases of fracture through the coracoid, the acromian, and the neck of the scapula without dislocation. There is no evidence on record that those fractures are of any serious consequence, as but very slight displacement of the fragments can occur, and usually repair is rapid. No doubt some of these fractures occur in violent efforts at reduction, especially when the heel is used in the axilla, or great leverage is employed, as in the remarkable case of Proskaska, when the head of the bone was jammed into the thorax between the second and third ribs; and, being irreducible, remained there ten years, with fairly good use of the limb remaining.

2. The most disastrous fractures occurring in connection with dislocation are those involving the humeral shaft; either through the anatomic neck or the diaphysis. A large proportion of these fractures are produced by efforts in reduction. Professor McBurney has collected 117 of these.

There is always great danger of producing this fracture in forcible attempts at reduction, especially in old cases.

From Kocher we learn that in 28 cases of old dislocation, he succeeded in reducing 25, but fractured the humerus in 3.

Fractures through the surgical neck here are quite invariably an accident in reduction. It has once happened in my practice, in a middle-aged woman with a large adipose development, but small bones.

In many recorded cases we find evidence that they are produced by violence in reduction. Very true, it may no doubt have existed at the time a case has entered the hospital; but it comes from another's hands, either in the out-door department or elsewhere.

At the Pan-American Medical Congress, held in Washington, D. C., in 1893, I presented an essay dealing with "Fractures and Their Complications," in which it was stated that when we have a case of fracture of the upper third of the humerus with a dislocation of the shoulder-joint, our efforts should be directed to reducing and adjusting the fragments, leaving the dislocation to itself.

Dr. Steman, of Fort Wayne, Ind., in the discussion which followed, said he could not understand how in these days of antisepsis and improved surgical technique, any surgeon could be content to leave the head outside the glenoid cavity in a case of this description. He then reported a case of fracture dislocation which he treated by osteotomy as far back as 1870. He opened down on the fractured humerus, seized the proximal end with a stout forceps and readily reduced the head. The wound healed promptly and the fragments readily united, with full use of the arm following. This is the first case on record treated by osteotomy, in which a fracture of the humeral shaft and dislocation simultaneously existed.

Fracture through the greater tuberosity, which is quite the equivalent of one outside the anatomic neck, is said, by Jonathan Hutchinson, Jr., to occasionally occur as a complication. He says that 50 per cent. of recorded cases were wrongly diagnosed; and hence, he advises that when this condition is suspected, a thorough examination under an anesthetic is important.

Epiphyseal separation, a subject which has been so ably and so exhaustively considered by Dr. E. M. Moore, Rochester, N. Y., we can scarcely mistake for a complete luxation.

ON THE MANAGEMENT OF FRACTURE DISLOCATION.

In fracture dislocation it yet remains an open question whether or not it is always in the interest of the patient, failing reduction, to advise an osteotomy or perchance an arthrotomy in addition; or whether it would not be more in the direction of safety, and later to the functional results, if, reduction failing, we delay in forcing reduction by any method until union in the fracture is complete. On this important question, surgical authors are silent; or rather urge sanguineous methods than permit the reduction to remain until the fragments unite. Some very good results have been recorded in these cases where primary therapy has been limited to dealing with the osseous lesion.

These osseo-arthritic traumatisms are of unusual occurrence, and involve great responsibilities on the part of the practitioner; and hence, in order to do full justice to this patient and escape the notoriety and expense of civil actions, he will do well to proceed with caution when radical measures are contemplated.

In Wyeth's case of osteotomy for fracture dislocation at the shoulder, the patient, a woman of 45, sank in twenty-four hours. In this instance manipulation of the upper fragment utterly failed; hence, all the muscular attachments had to be divided and the head resected. Our grateful acknowledgements are due to this distinguished surgeon, for giving us the dark as well as the bright side of this subject.

Dr. Strong, *apropos* of the responsibility entailed in this class of injuries, very judiciously admonishes us of the great risk we often incur, and says, "from a medicolegal standpoint, the general practitioner or surgeon who dabbles with injuries which may be followed by fracture or dislocation, takes upon himself an enormous responsibility. No man should practice surgery without a constant fear of the law before him. A superficial or cursory examination with a guess should never be indulged in here, if the physician values his reputation or his pocket book. Patients, as a rule, know nothing at all concerning the gravity of a joint injury, either a sprain, a dislocation, or a fracture into it."

What our line of action should be in the routine management of dislocations at the shoulder, complicated by a fracture through the surgical neck of the humerus, is not yet agreed on, nor is any routine plan adopted or recommended by our leading authorities; certainly none yet recommend sanguineous measures until all other tentative procedures have failed; nor even then in any other than exceptional circumstances.

IRREDUCTION AND ITS OPERATIVE MANAGEMENT.

The most formidable complication in shoulder luxation is that pathologic condition succeeding it which renders all our efforts at reduction futile.

Of late years it has been thought advisable and justifiable to utilize the aids of aggressive surgery and arthrotomize in those cases resisting reduction, on the ground that this involves no special danger, and that the functional state of the limb is very much better after operative replacement than when the luxated head is permitted to roam about, or form a pseudo-arthrosis for itself. Sufficient time has now elapsed for us to formulate some definite line of action, when we contemplate a luxation arthrotomy, and to estimate whether or not the average results following its performance are better than when the displaced bone is left to itself.

FUNCTION IN IRREDUCIBLE DISLOCATIONS

We all know that there are many who have suffered irreducible dislocation, yet possess practically the full functional use of their limb. A remarkable case illustrating this is published by Stewart, of Sidney, Australia. In an elderly man in the dissecting-room, he discovered a complete double dislocation of both shoulders, of long standing. The muscles were well developed, and the man had worked as a drayman, with full use of his limbs, until he was accidentally killed.

About a year ago a young man from Toronto, the brother of a physician, came to me for advice and the treatment of a subglenoid dislocation of the humerus. Four years previously he fell from a ladder and displaced the bone. Not suspecting the true nature of the injury, he went to no physician for a week, when a liniment was prescribed. One year later, only, was the luxation discovered. From the time of the accident he continued on at his trade of tinsmith and roofer. He had a pseudo-ankylosis, but good use of the limb. I advised him to let it alone.

It is well known that a noted golf player in England has had his left shoulder displaced for many years.

A young German cabinet maker came under my care for the treatment of a fractured arm, some time ago, at the Harlem Hospital, when I discovered that he had a complete subglenoid dislocation of long standing. He had an excellent muscular development, and informed me that the limb was equally as strong as the left—uninjured one. He had been advised before he emigrated not to permit any surgical operation for the replacement. In this class of cases where the full strength and action of the limb are preserved, no surgeon would insist on sanguineous replacement.

STATUS OF OPERATIVE INTERVENTION, ARTHROTOMY AND RESECTION.

There are a considerable number, with some one or other of the thirty or more different types of pseudo-ankylosis after luxation met with at the shoulder, with a painful or paretic limb, where the injured insists on immediate reduction at all hazards.

For the decade preceding 1898 a considerable number of operations have been done for irreducible shoulder; few before that time.

Thorborne, up to 1891, could find but thirteen cases of excision of the humeral head for irreducible shoulder luxation; but up to 1897 Souchon collected 154 shoulder arthrotomies for the same condition. Since 1820, cases of arthrotomy have been recorded for this luxation, the first in America being Dr. Alfred Post's, in 1861.

It is somewhat remarkable to note that but few of our late monographs devoted to dislocations give this important subject any systematic consideration. In Waring's late work it is passed over, also in Helferich's, recently translated by Hutchinson, and in Stimson's classic work of 1895. But quite a little appears in the current home and foreign literature on operative reduction, before 1897. Since then there could be found, by most diligent research, but very few recorded.

At the outset, surgeons were exceedingly sanguine that a new epoch had opened for the surgery of irreducible shoulder luxation. McLauren wrote that "the readiness with which the joint can be opened, the ease with which the obstacles can be detected, and removed, and the happy result in successful cases encourage performance of the operation, when certain attempts by traction and manipulation fail to reduce old dislocations." Evidently his experience was exceptionally fortunate, for it is the common experience of nearly all surgeons that the detection of obstacles is often very difficult and, when discovered, they can not always be removed. The operation, too, has no trifling mortality. Prof. Nicholas Senn, in a brief contribution on the "Trans-Scapula Incision," also speaks in an assuring tone on the future of radical surgery here, and says "the success that has attended the open method in the reduction of irreducible dislocations has added a new impetus to this department of surgery." But events would seem to point to there remaining some doubt as to the "success" of these proceedings, if we weigh them by remote functional results as well as by the operative effects.

Delbet, in 62 cases collected, found that there were 12 deaths; an operative mortality of more than 12 per cent. As to function, in 25 reduced by arthrotomy, in 12 the results were satisfactory; in 4, mediocre; in 4, secondary resection; in 2, bad.

In 1875, Annandale, in an arthrotomy on a woman 62 years old, for dislocation, encountered great difficulty, wounded the circumflex nerve, and had to ligate the axillary artery, mortal gangrene following.

Madyl observes that "because excellent results sometimes follow an operation for a dislocation which would leave a limb useless is no reason why we should not hesitate before we apply it to the shoulder, which, he says, may be often dislocated permanently without serious permanent functional effects, and which are operated on only with danger, and seldom with satisfactory results."

The early evolution of any major operation must necessarily be attended with a large mortality and unsatisfactory results. This certainly was the case in the early history of ovariotomy and hysterectomy; in our own time in properly selected cases, procedures succeeded generally by little danger to life and happy ultimate effects.

On this side of the subject Tillaux observes that "the operative cure of old dislocations, especially those of the shoulder, every day gains new ground, and if the guiding principles of operative treatment are not yet settled. the number of published cases points to the legitimacy of their adoption." He then cites Rotier's case, in which a resection was made for an old shoulder dislocation, in a young woman in whom ankylosis was complete. He opened the joint, forced the adhesions, resected the head, and closed the wound. Complete union followed, in ten days, and ultimate results were very satisfactory.

ARTHROTOMY OR RESECTION OF THE HUMERAL HEAD. PERIOD FOR OPERATION. RESULTS.

Could we only determine the exact pathologic state after every dislocation, we would have no difficulty in deciding on appropriate treatment. But all the etiologic factors entering into irreducible shoulder dislocation are not yet understood, nor agreed on, as all must admit they are more vague and complex than in any other luxation of the larger articulations.

Philip Crampton, when he published his "Observations on Surgery," in 1810, stated that there was, up to that date, but one case on record which revealed the pathologic conditions obtaining in a recent shoulder luxation. In 1782, Bonn described the morbid anatomy of several unreduced luxations; twelve of the shoulder; but the most recent of the dozen was of more than a year's standing.

Rupture or "button-holing" of the capsule is said to play a prominent rôle in irreducible luxations at the shoulder; but this assumption lacks confirmation. The capsule has been reported as having been partly detached from its insertion, and lacerated in various ways, but there does not appear a single case recorded in which an arthrotomy was performed, that this so-called button-holding of it was found. In fact, without a complete detachment of all the deep rotators, this is quite impossible.

Both Pott and Cooper were of the opinion that the narrowness of the opening in the capsule could never create an impediment to reduction, though Desault, Dupuytren, and others took a different view. Some contend that rupture of the capsule is invariable in dislocations, while others believe it can occur only when the dislocation is complete.

My own experimental work on the cadaver incontestibly demonstrated that the capsule exercises practically *no* restraining influence on the normal shoulder movements, as it readily permits the head to roll about in every direction after the deltoid is completely divided by a semicircular incision.

Ankylosis, either from intra- or extra-articular conditions, as Souchon well observes, as a troublesome complication or sequel, is usually a less serious affair than in other points because of the free motion of the scapula.

Ricard records one instance illustrative of the influence of various osseous lesions as constituting an impediment to reduction. After vain efforts at reduction in a dislocation six weeks old, he exposed the deep parts, and came upon a fracture through the greater tuberosity. This had united in a vicious position, and was so locked under the acromian process as to render reduction impossible.

ARTHROTOMY.

M. Chaput agrees with Nélaton, that arthrotomy is the treatment of choice in all recent irreducible luxations of the shoulder. In old, inveterate cases dating over three months, with effacement of the articular hollow, operation with resection is not to be recommended, because, in many of these, there is ample movement, or at all events such as may follow many resections; *a fair amount of passive movement remains*, but the free and active movements of a sound joint are wanting; as they should be after most operations.

Souchon, who has made a most exhaustive study of this subject, says: "in recent cases of dislocation it is most important to operate before union to the bones has taken place." This must be supposed to mean, before osseous ankylosis has developed.

Ollier records a case of a young man on whom he operated, whose shoulder was luxated the day he was born. He resected the articular head, with excellent ultimate results. He operated on another by resection, the patient 26 years old, the bone out six months. Very reported a case of fracture dislocation which he treated by osteotomy as far back as 1870. He opened down on the fractured humerus, seized the proximal end with a stout forceps and readily reduced the head. The wound healed promptly and the fragments readily united, with full use of the arm following. This is the first case on record treated by osteotomy, in which a fracture of the humeral shaft and dislocation simultaneously existed.

Fracture through the greater tuberosity, which is quite the equivalent of one outside the anatomic neck, is said, by Jonathan Hutchinson, Jr., to occasionally occur as a complication. He says that 50 per cent. of recorded cases were wrongly diagnosed; and hence, he advises that when this condition is suspected, a thorough examination under an anesthetic is important.

Epiphyseal separation, a subject which has been so ably and so exhaustively considered by Dr. E. M. Moore, Rochester, N. Y., we can scarcely mistake for a complete luxation.

ON THE MANAGEMENT OF FRACTURE DISLOCATION.

In fracture dislocation it yet remains an open question whether or not it is always in the interest of the patient, failing reduction, to advise an osteotomy or perchance an arthrotomy in addition; or whether it would not be more in the direction of safety, and later to the functional results, if, reduction failing, we delay in forcing reduction by any method until union in the [illegible]ture is complete. On this important question, sur- [illegible] uthors are silent; or rather urge sanguineous [illegible] permit the reduction to remain until the [illegible]e. Some very good results have been re- [illegible] cases where primary therapy has been [illegible] with the osseous lesion.

[illegible] tic traumatisms are of unusual occu[illegible] e great responsibilities on the part of the prac[illegible]; and hence, in order to do full justice to this patient and escape the notoriety and expense of civil actions, he will do well to proceed with caution when radical measures are contemplated.

In Wyeth's case of osteotomy for fracture dislocation at the shoulder, the patient, a woman of 45, sank in twenty-four hours. In this instance manipulation of the upper fragment utterly failed; hence, all the muscular attachments had to be divided and the head resected. Our grateful acknowledgements are due to this distinguished surgeon, for giving us the dark as well as the bright side of this subject.

Dr. Strong, *apropos* of the responsibility entailed in this class of injuries, very judiciously admonishes us of the great risk we often incur, and says, "from a medicolegal standpoint, the general practitioner or surgeon who dabbles with injuries which may be followed by fracture or dislocation, takes upon himself an enormous responsibility. No man should practice surgery without a constant fear of the law before him. A superficial or cursory examination with a guess should never be indulged in here, if the physician values his reputation or his pocket book. Patients, as a rule, know nothing at all concerning the gravity of a joint injury, either a sprain, a dislocation, or a fracture into it."

What our line of action should be in the routine management of dislocations at the shoulder, complicated by a fracture through the surgical neck of the humerus, is not yet agreed on, nor is any routine plan adopted or recommended by our leading authorities; certainly none yet recommend sanguineous measures until all other tentative procedures have failed; nor even then in any other than exceptional circumstances.

IRREDUCTION AND ITS OPERATIVE MANAGEMENT.

The most formidable complication in shoulder luxation is that pathologic condition succeeding it which renders all our efforts at reduction futile.

Of late years it has been thought advisable and justifiable to utilize the aids of aggressive surgery and arthrotomize in those cases resisting reduction, on the ground that this involves no special danger, and that the functional state of the limb is very much better after operative replacement than when the luxated head is permitted to roam about, or form a pseudo-arthrosis for itself. Sufficient time has now elapsed for us to formulate some definite line of action, when we contemplate a luxation arthrotomy, and to estimate whether or not the average results following its performance are better than when the displaced bone is left to itself.

FUNCTION IN IRREDUCIBLE DISLOCATIONS.

We all know that there are many who have suffered irreducible dislocation, yet possess practically the full functional use of their limb. A remarkable case illustrating this is published by Stewart, of Sidney, Australia. In an elderly man in the dissecting-room, he discovered a complete double dislocation of both shoulders, of long standing. The muscles were well developed, and the man had worked as a drayman, with full use of his limbs, until he was accidentally killed.

About a year ago a young man from Toronto, the brother of a physician, came to me for advice and the treatment of a subglenoid dislocation of the humerus. Four years previously he fell from a ladder and displaced the bone. Not suspecting the true nature of the injury, he went to no physician for a week, when a liniment was prescribed. One year later, only, was the luxation discovered. From the time of the accident he continued on at his trade of tinsmith and roofer. He had a pseudo-ankylosis, but good use of the limb. I advised him to let it alone.

It is well known that a noted golf player in England has had his left shoulder displaced for many years.

A young German cabinet maker came under my care for the treatment of a fractured arm, some time ago, at the Harlem Hospital, when I discovered that he had a complete subglenoid dislocation of long standing. He had an excellent muscular development, and informed me that the limb was equally as strong as the left—uninjured one. He had been advised before he emigrated not to permit any surgical operation for the replacement. In this class of cases where the full strength and action of the limb are preserved, no surgeon would insist on sanguineous replacement.

STATUS OF OPERATIVE INTERVENTION, ARTHROTOMY AND RESECTION.

There are a considerable number, with some one or other of the thirty or more different types of pseudo-ankylosis after luxation met with at the shoulder, with a painful or paretic limb, where the injured insists on immediate reduction at all hazards.

For the decade preceding 1898 a considerable number of operations have been done for irreducible shoulder; few before that time.

Thorborne, up to 1891, could find but thirteen cases of excision of the humeral head for irreducible shoulder luxation; but up to 1897 Souchon collected 154 shoulder arthrotomies for the same condition. Since 1820, cases of arthrotomy have been recorded for this luxation, the first in America being Dr. Alfred Post's, in 1861.

It is somewhat remarkable to note that but few of our late monographs devoted to dislocations give this important subject any systematic consideration. In Waring's late work it is passed over, also in Helferich's, recently translated by Hutchinson, and in Stimson's classic work of 1895. But quite a little appears in the current home and foreign literature on operative reduction, before 1897. Since then there could be found, by most diligent research, but very few recorded.

At the outset, surgeons were exceedingly sanguine that a new epoch had opened for the surgery of irreducible shoulder luxation. McLauren wrote that "the readiness with which the joint can be opened, the ease with which the obstacles can be detected, and removed, and the happy result in successful cases encourage performance of the operation, when certain attempts by traction and manipulation fail to reduce old dislocations." Evidently his experience was exceptionally fortunate, for it is the common experience of nearly all surgeons that the detection of obstacles is often very difficult and, when discovered, they can not always be removed. The operation, too, has no trifling mortality. Prof. Nicholas Senn, in a brief contribution on the "Trans-Scapula Incision," also speaks in an assuring tone on the future of radical surgery here, and says "the success that has attended the open method in the reduction of irreducible dislocations has added a new impetus to this department of surgery." But events would seem to point to there remaining some doubt as to the "success" of these proceedings, if we weigh them by remote functional results as well as by the operative effects.

Delbet, in 62 cases collected, found that there were 12 deaths; an operative mortality of more than 12 per cent. As to function, in 25 reduced by arthrotomy, in 12 the results were satisfactory; in 4, mediocre; in 4, secondary resection; in 2, bad.

In 1875, Annandale, in an arthrotomy on a woman 62 years old, for dislocation, encountered great difficulty, wounded the circumflex nerve, and had to ligate the axillary artery, mortal gangrene following.

Madyl observes that "because excellent results sometimes follow an operation for a dislocation which would leave a limb useless is no reason why we should not hesitate before we apply it to the shoulder, which, he says, may be often dislocated permanently without serious permanent functional effects, and which are operated on only with danger, and seldom with satisfactory results."

The early evolution of any major operation must necessarily be attended with a large mortality and unsatisfactory results. This certainly was the case in the early history of ovariotomy and hysterectomy; in our own time in properly selected cases, procedures succeeded generally by little danger to life and happy ultimate effects.

On this side of the subject Tillaux observes that "the operative cure of old dislocations, especially those of the shoulder, every day gains new ground, and if the guiding principles of operative treatment are not yet settled. the number of published cases points to the legitimacy of their adoption." He then cites Rotier's case. in which a resection was made for an old shoulder dislocation, in a young woman in whom ankylosis was complete. He opened the joint, forced the adhesions. resected the head, and closed the wound. Complete union followed. in ten days, and ultimate results were very satisfactory.

ARTHROTOMY OR RESECTION OF THE HUMERAL HEAD. PERIOD FOR OPERATION. RESULTS.

Could we only determine the exact pathologic state after every dislocation, we would have no difficulty in deciding on appropriate treatment. But all the etiologic factors entering into irreducible shoulder dislocation are not yet understood, nor agreed on, as all must admit they are more vague and complex than in any other luxation of the larger articulations.

Philip Crampton, when he published his "Observations on Surgery," in 1810, stated that there was, up to that date, but one case on record which revealed the pathologic conditions obtaining in a recent shoulder luxation. In 1782, Bonn described the morbid anatomy of several unreduced luxations; twelve of the shoulder; but the most recent of the dozen was of more than a year's standing.

Rupture or "button-holing" of the capsule is said to play a prominent rôle in irreducible luxations at the shoulder; but this assumption lacks confirmation. The capsule has been reported as having been partly detached from its insertion, and lacerated in various ways, but there does not appear a single case recorded in which an arthrotomy was performed, that this so-called button-holding of it was found. In fact, without a complete detachment of all the deep rotators, this is quite impossible.

Both Pott and Cooper were of the opinion that the narrowness of the opening in the capsule could never create an impediment to reduction, though Desault, Dupuytren, and others took a different view. Some contend that rupture of the capsule is invariable in dislocations, while others believe it can occur only when the dislocation is complete.

My own experimental work on the cadaver incontestibly demonstrated that the capsule exercises practically *no* restraining influence on the normal shoulder movements, as it readily permits the head to roll about in every direction after the deltoid is completely divided by a semicircular incision.

Ankylosis, either from intra- or extra-articular conditions, as Souchon well observes, as a troublesome complication or sequel, is usually a less serious affair than in other points because of the free motion of the scapula.

Ricard records one instance illustrative of the influence of various osseous lesions as constituting an impediment to reduction. After vain efforts at reduction in a dislocation six weeks old, he exposed the deep parts, and came upon a fracture through the greater tuberosity. This had united in a vicious position, and was so locked under the acromian process as to render reduction impossible.

ARTHROTOMY.

M. Chaput agrees with Nélaton, that arthrotomy is the treatment of choice in all recent irreducible luxations of the shoulder. In old, inveterate cases dating over three months, with effacement of the articular hollow, operation with resection is not to be recommended, because, in many of these, there is ample movement, or at all events such as may follow many resections; a fair amount of passive movement remains, but the free and active movements of a sound joint are wanting; as they should be after most operations.

Souchon, who has made a most exhaustive study of this subject, says: "in recent cases of dislocation it is most important to operate before union to the bones has taken place." This must be supposed to mean, before osseous ankylosis has developed.

Ollier records a case of a young man on whom he operated, whose shoulder was luxated the day he was born. He resected the articular head, with excellent ultimate results. He operated on another by resection, the patient 26 years old, the bone out six months. Very painful arthritis followed the operation, June 24, 1885. He left the hospital with a useful limb, Jan. 8, 1886. The head of the humerus was well drawn up into the glenoid hollow and free movement secured.

Hennequin draws the line on children, and says arthrotomy should be rarely resorted to with them for irreducible dislocations of the shoulder, because of the danger of doing harm to the epiphyseal isthmus.

M. Dalageniere briefly recounts the indications for arthrotomy in effecting reduction by surgical intervention in those cases failing to yield to ordinary measures, and observes that, "when luxations resist the combined methods, where there is a special lesion, as ligamentous interposition, tendinous or osseous, which oppose usual procedures, we should not hesitate to open the joint." He then inquires whether it is logical, when there exists a lesion of a character unknown to us, to have recourse to great violence by any mechanical appliance, exercising a brutal traction, sometimes perilous and often compromising the functions or the integrity of the articulation. In dislocations of several weeks' standing, he would recommend the liberation of the adhesions by free motion or forced traction; this failing, he would freely open the joint.

Dr. Monks, a surgeon to the Manchester General Hospital, has reported a case of resection in a dislocation of ten months' standing. It is interesting to note that the excised head was atrophied and so soft that it broke down easily under pressure of the finger.

(To be continued.)

Therapeutics.

Cod Livers in Local Tuberculosis.

Guerder attributes to fresh cod-liver a threefold action: 1, by its fat; 2, a medicinal action by its bile elements stimulating nutrition and the secretions, and 3, by its ferments, which include it in the domain of organ therapy. He reports numerous experiments and five observations in *Revue de Therap.*, January 15, which establish that injections of a glycerinized extract of fresh cod-livers are harmless, and induce a pronounced local phagocytosis and elimination of morbid products, similar to the expulsion of false membranes after treatment with diphtheria antitoxin. The general health is also favorably affected.

Some Modern Views of Gout.

A. P. Luff, in a paper read before the West Kent Chirurgical Society (*Merck's Archives*, February, 1900), brought forward some new ideas on the etiology of gout which may alter the general methods of treating this disease. He showed that in gout, uric acid exists in the blood, not as an acid but as a sodium quadriurate; that this changes into gelatinous biurate and then into crystalline sodium biurate. Delaying conversion of the gelatinous biurate into the crystalline form will aid its "uricacidemia," which has no conclusive experimental basis on which to rest, he is of the opinion that the gouty paroxysm is due to precipitation of crystalline sodium biurate in the implicated tissues causing irritation and inflammation. The deposition must be sudden and rather copious to start inflammation; otherwise no inflammation results.

Actual blood-tests show that instead of a diminished there is an increased alkalinity of the blood in gout; hence, treatment to increase alkalinity hastens the conversion of the gelatinous sodium biurate to crystalline biurate and is one of the causative factors in the production of gout.

Treatment of acute gout consists first of relieving the paroxysms. Colchicum and potassium citrate should be freely administered and a mild blue pill and Epsom salts purge be given. Painful joints may be bound with wool saturated with a warm alkaline and anodyne solution. Uric acid should be eliminated by free diuresis, encouraged by plenty of water and the continued administration of potassium citrate or similar salts. Excessive formation of uric acid should be checked. This is accomplished by a carefully selected dietary. Meat, after the acute attack has subsided, should be moderately partaken of and green vegetables should be eaten freely. The principal thing is exclusion of variety, and especially to avoid mixing proteids and carbohydrates. The liver should be kept active by doses of guaiacum and an occasional mild liver pill, and by keeping the bowels open. Open-air exercise should be insisted on as soon as the patient is able to take it. Golf and cycling are two excellent forms of exercise for the gouty. Enlarged joints should be treated by massage, muscular movements and electricity, with a view to working off the deposition of sodium biurate.

Oil of Wintergreen Preparation for Rheumatism.

℞.	Olei gaultheriæ	ʒiv
	Alcoholis, q. s.	
	Syr. simplex, q. s., ad	℥iv

M. One teaspoonful in vichy three times daily.

—*Richmond Journal of Practice.*

Acute Bronchitis.

℞.	Vin ipecac	
	Vin antimonii, āā	flʒii
	Glycerini	flʒiv
	Sol. ammonii acetati	℥i
	Aquæ, q. s., ad	℥iii

M. Teaspoonful every three or four hours.

—*Medical Record.*

Rigid Perineum.

℞	Chloroformi	ʒii
	Ether sulphurici	ʒi
	Cologne spts	ʒi

M. Apply locally.

—*Southworth.*

Salt Solution in Grippe Tetanus.

A boy 7 years old was affected with the catarrhal form of influenza simultaneously with the rest of the family but complained of pains in the abdomen, back and lower members, which became so contracted that walking was impossible. Opisthotonos and trismus followed. No medication produced any relief until subcutaneous injections of salt solution were tried, and this proved successful in attenuating and curing the tetanus. Gomez relates the observation in the *Riforma Méd.*, January 23, and calls attention to hypodermoclysis as an effective measure in the nontraumatic tetanic manifestations of la grippe.

Facial Erysipelas.

℞.	Acidi carbolici	℥i
	Tinct. iodini	℥i
	Alcoholi	℥i
	Olei turpentini	℥ii
	Glycerini	℥iii

M. Paint the affected parts and cover with aseptic gauze, once in two or three hours.

—*La Presse Medical.*

To Promote Renal Elimination in Pneumonia.

℞.	Fl. ext. hydrangiæ	
	Spts. etheris nitrosi, āā	℥iv
	Acidi salicylici	℥ss
	Fl. ext. gelsemii	ʒii
	Syr. simplicis, q. s., ad	℥xii

M. Adult dose, teaspoonful every four to six hours.

—*Medical Bulletin.*

Home Remedy for Leg-Ulcers.

G. V. Buehler, *Philadelphia Medical Journal*, Feb. 17, 1900, states that good results have been obtained in indurated varicose leg-ulcers with the following treatment, but in syphilitic ulcers it has had little effect.

After thoroughly heating a pint of boiled linseed-oil, a half pound of red oxid of lead is added and the mixture allowed to boil for some time. It is then allowed to cool, then boiled again, and after cooling a second time, one-half ounce of gum camphor is stirred in. The oxid of lead is in this manner decomposed to black oxid, and the repeated boiling so changes the consistency that it can be made into a stick or can be spread on a cloth by heating over an alcohol flame.

Cystitis.

S. S. Jones says that in catarrhal cystitis, acute and subacute, especially in women, bismuth and boric acid are very useful, applied in the following manner: To a pint of warm boiled water add a teaspoonful of a powder made up of 75 per cent. of bismuth and 25 per cent. of boric acid. Use a soft catheter, to which a small glass funnel has been attached. Pour into the empty bladder half of the mixture, which must be kept well stirred, and let it run out; the other half should now be poured in and permitted to remain a few minutes, when it may be voided *per vias naturales.*

IN PAINFUL TUBERCULOUS CYSTITIS.

℞.	Guaiacol	ʒ1¼	5
	Iodoform	gr. xv	1
	Sterilized olive-oil	ʒxxv	100

M. Sig. Inject ¼ to ½ dram (1 to 2 gm.) into the bladder once or twice daily. —*Colin.*

CYSTITIS COMPLICATED BY RHEUMATISM.

℞.	Sodii salicylatis	ʒi to ʒiss	4—6
	Syrupi limonis		
	Aquæ menthæ pip., āā	ʒxv	60

M. Sig. Teaspoonful every hour.

ACUTE BLENORRHAGIC CYSTITIS.

℞.	Sodii biboratis	ʒviiss	30
	Sodii bicarbonatis	ʒiiss	10

M. Sig. Two teaspoonfuls during the day in a quart of lemonade. —*Balzer.*

FOR SENILE CYSTITIS.

℞.	Ext. hydrangea	ʒii
	Tinct. gentianæ comp	ʒiv
	Tinct. staphisagriæ	
	Tinct. cannabis indicæ, āā	ʒi
	Syrupi aurantii, q. s., ad	℥iv

M. Sig. A teaspoonful three times daily. —*Hopkins.*

IRRITABILITY OF THE BLADDER AFTER DELIVERY.

℞.	Salol	
	Tinct. hyoscyami, āā	ʒii
	Infusi buchu, q. s., ad	℥vi

M. Sig. Teaspoonful three times a day. Shake well. —*Fothergill.*

℞.	Liquoris potassæ	ʒi
	Mucilag. acaciæ	℥ss
	Tinct. hyoscyami, q. s., ad	℥ii

M. Sig. Dose a teaspoonful.

IN ACUTE CATARRHAL FORM WITH MAL-ODOR.

℞.	Amyl nitritis	gtt. v
	Aquæ destil	℥iv

M. Sig. Add ℥ss of this solution to the proper quantity of water for a vesical injection.

IN CHRONIC CYSTITIS.

℞.	Acidi borici	℥ss
	Glycerini	℥i
	Aquæ destil	℥x

M. Sig. For an injection into the bladder. At moment of employment mix it with an equal part of warm water. —*Ultzmann.*

℞.	Acidi oxalici	gr. xvi
	Syrupi aurantii	℥i
	Aquæ, q. s., ad	℥iv

M. Sig. Teaspoonful every four hours. —*A. W. Marsh.*

CYSTITIS IN FEMALES.

To neutralize alkaline urine, five grains of benzoic acid in capsule every three hours. Large draughts of water after each dose.

In ammoniacal decomposition, five grains of salol, in capsule, every two hours until the urine is acid. —*Bloom.*

FOR WASHING OUT BLADDER.

℞.	Argenti nitratis	gr. xv
	Aquæ destil	Oii

GONORRHEAL VESICAL IRRITABILITY.

In gonorrheal vesical irritability in females, after cleansing the urethra with bichlorid solution, apply pure ichthyol and give:

℞.	Ichthyoli	m. ii
	Olei santali	m. v

M. Sig. In capsule every three hours. —*Bloom.*

Eugallol.

In the *Dermat. Cbl.*, iii, 1, Hugo Goldschmidt says eugallol has been used in a number of cases of inveterate psoriasis at the Alterheiligen Hospital of Berlin. The eugallol was dissolved in acetone—the solution being painted daily for several days on the affected spots, followed in from fifteen to thirty minutes by the application of a zinc paste. The only drawback, so far as the face treatment is concerned, is the blackening of the spots; but this lasts only for a few days. The discoloration can be removed, too, to a certain extent, by means of ether. The following conclusions are based on the results obtained:

1. Eugallol, used in the manner above described, exerts an extremely rapid and energetic action on psoriatic efflorescences in every stage.

2. In extended psoriatic eruptions, with numerous recent efflorescences, the remedy is not eligible, at least for use by the patient, because of the tediousness and difficulty of application. Individual efflorescences of the face and head may, nevertheless, be advantageously treated.

3. The eugallol-zinc treatment is excellently adapted for isolated inveterate plaques that are resistant to all other treatment.

4. Toxic effects are never observed, even after the most extended use; or, at least, are but very unimportant.

5. Eugallol causes, in some cases, slight local irritation, which, however, rapidly disappears on suspension.

The remedy, like all others, can not prevent a recurrence of the psoriasis; hence an absolute cure can not be expected.

Treatment of Hemorrhoids.

According to J. Boas and F. Karewsky (*Therapie der Gegenwart*, November, 1899), in hemorrhoids a bland diet, especially sweet milk, is absolutely injurious on account of the lack of stimulation of the peristalsis. Great care should be paid to the toilet of the anal region after defecation, a solution of tannin or alum on a cotton wad being used. An ascending douche is of value. In giving enemata, a soft sound should be used, and all irritating substances, like glycerin, salt, etc., should be avoided. Except in extreme cases purgatives should not be given. To control hemorrhage, which occurs even when the feces are normal, a teaspoonful of fluid extract of hamamelis Virginica in a wineglassful of water three times a day for four weeks, then twice a day for another month, is to be recommended. If the hemorrhage is severe, a powerful dose of opium should be given and the bleeding spot tamponed with gauze. After it has been arrested for three days, a dose of castor-oil is to be taken.

Medicolegal.

Ten Thousand Dollars for a Leg.—For a previously strong and healthy man with a life expectancy of thirty-three or thirty-four years, and earning $1080 a year as a switchman, the Court of Civil Appeals of Texas holds, in the Gulf, Colorado & Santa Fe Railway Company vs. Warner, wherein the supreme court has denied a writ of error, that $10,000 is not excessive damages for serious and permanent injuries, requiring the amputation of his leg midway between his knee and hip-joint, and causing him intense suffering, and confining him to his bed for about eight weeks, and to his house much longer.

Imputing Adultery to Physician.—A publication in writing, which the law presumes must do damage, is called a libel *per se.* And of this character, Mr. Justice Gaynor holds, at a Kings County special term of the Supreme Court of New York, is a newspaper imputation that a physician has been guilty of an act of adultery. Indeed, he says that a written charge of adultery against man or woman always was libelous *per se.* The strange intimation to the contrary in the dissenting opinion in the Gates Case, 155 N. Y. 234, he states, is the first that seems ever to have been made. No special damage, he goes on to hold, Cruikshank vs. Bennett, need be alleged in the complaint nor proved to maintain an action on such a libel. An allegation of general damage to [illegible] or [illegible]usiness, to both, suffices. Special dam[illegible] plead and proved in such an action and recovered in addition to general damage; and, to be proved, must first be specifically alleged in the complaint. For example, if loss of patients be claimed, the names and particulars must be stated in the complaint.

Residence of District Physician.—A city charter providing, as does that of the city of Buffalo, for the appointment of a certain number of district physicians, each of whom "shall reside in the district for which he is appointed," the appellate division, third department, Supreme Court of New York holds, case of People vs. Leavy, not only must the appointment of every district physician be made for a certain specified district, but no one is eligible to such appointment unless he at the time resides in the district. In other words, the court denies that an appointment can be one at large and the district in which the appointee is to reside, and in which his services are to be rendered, be determined by subsequent assignment.

Intoxication Not Negligence Per Se.—In Sylvester vs. Town of Casey, an action brought to recover for personal injuries caused by a fall on a defective sidewalk, the Supreme Court of Iowa condemns, as an incorrect statement of the law, an instruction: "Intoxication is evidence of contributory negligence, and from it alone you may infer contributory negligence." It holds that unless it appeared to have been negligence for the plaintiff to be on the walk in an intoxicated condition, or unless the evidence showed that his intoxication in some way aided in bringing about his injury, his condition would not be available to the town as a defense. Intoxication it does not consider negligence in itself.

Jury a Judge of Permanency of Disability.—When the character and extent of injuries received by a man in a railway accident are described by him and by physicians, and when the effect of the injuries in disabling him from manual labor are stated by him, the Supreme Court of Kansas holds, in Missouri, Kansas & Texas Railway Company vs. Fowler, that the jury can judge whether, and to what extent, he will be permanently disabled, and the testimony of physicians as to the permanent impairment of his ability to labor is not of necessity required to enable him to recover for permanent disability.

May Testify to Effect of Existing Ailment.—A distinction is made by the appellate division, first department, Supreme Court of New York, between a physician testifying to the effect of an existing ailment, which has already resulted from the injury for which damages are sought to be recovered, and his testifying as to the probable outbreak of a new disease, having its cause in the original injury. As to the latter, it states, he will not be permitted to say that such a disease will occur, unless he is able first to testify that he can determine its probability with reasonable certainty. But a competent witness, giving testimony as to the continuance of a present existing condition, it holds, Knoll vs. Third Avenue Railroad Company, is at liberty to state what, from his observation and experience, will be the probable effect of the present condition, and it is not necessary to limit the question as in the other case. Nor does it attach any importance to the use of the word "likely" instead of the word "probable" in the question asking about the effect of the ailment, although the two words are not synonymous.

Not Dying Declaration.—On account of what it holds was error in admitting in evidence what it does not consider was a dying declaration, the Supreme Court of California reverses, in People vs. Fuhrig, a judgment of conviction of the crime of abortion, and orders a new trial. It does not find the requisite evidence of a solemn belief of impending death in a statement of 184 words prepared by a stenographer, beginning with the formula, supplied by him: "Knowing I am about to die, I hereby make this my last statement, and declare same to be the truth, and the whole truth, so help me God," when that was all that there was to show the condition of mind when the purported dying declaration was made, and it was not read over and approved sentence by sentence after being written out, but as a whole, and so stated to be all right. Moreover, the court here lays aside as unimportant the facts that the person making the alleged dying declaration, was emaciated and in a weak state, it being of the opinion that hardly to the slightest degree did these circumstances tend to prove that she believed at the time that she was about to die, although it admits that they might be quite material in some cases. Nor does it deem it sufficient that the doctor told her that she "would probably die." Not being positive that the usual and ordinary effect of such a statement by a doctor to a patient would be to infuse in his mind a hope, a possibility at least, of recovery, indeed, such a statement, it thinks, would naturally indicate that the doctor himself still had some hopes of the patient's recovery. But dying declarations, the court repeats that it has held before, are not admissible in evidence if the declarant had the slightest hope of recovery, although he dies within an hour afterward.

Denied Divorce for Mistreatment when Sick.—In Bonney vs. Bonney, the Supreme Judicial Court of Massachusetts has denied a husband a divorce, notwithstanding that the testimony left no doubt that his wife had failed to perform the duties of a wife, in failing either to stay at home and take care of him when sick, or to consent to his hiring a nurse or housekeeper so to do. It seems to consider it important in this connection that he was not dependent solely on his wife, but was under the care of a physician, and had the money with which to secure proper food and nursing. It says that, if he was not content with the care his wife gave him while he was sick in bed, his remedy was to hire a nurse, even if his wife wrongly threatened to leave his tenement if he did so, there being no pretense that this could not have been done through the physician in attendance. And, under these circumstances, it holds that the fact that the husband's health was temporarily injured by his wife's failure to comply with the doctor's orders as to his diet and medicines was not sufficient to constitute cruel and abusive treatment, within the meaning of a statute making that a ground for divorce. Her action in that respect, it admits, might, in one sense, be said to be cruel, and the husband might be said to have been abused by her. But, the court holds, it was not such cruel and abusive treatment as, under the circumstances of the husband, will cause injury to his health, or create danger of such injury, or reasonable apprehension of such danger, if the parties continue to live together; and nothing less, it insists, will make out a case of divorce on this ground.

Ambulances and Right of Way.—A judgment for $500 damages, in favor of a hospital house surgeon, who responded to an ambulance call, in the absence of the ambulance surgeon, and was injured in a collision in which a cable-car struck the rear wheel of the ambulance, has been affirmed in the case of Buys vs. Third Avenue Railway Company. It has been held, the appellate division, second department, Supreme Court of New York says, that a violation of a municipal ordinance is some evidence of negligence. And so here it holds that it was proper to place before the jury an ordinance of the city of New York giving to ambulances the right of way, as that, it declares, was one of the restrictions under which the defendant street railroad company operated its cars. At street intersections, the court goes on to say, the rights of all vehicles, in the absence of municipal or statutory regulations, are equal, but considerations of humanity step in, and determine that ambulances shall have the right of way, and the defendant owed the duty to the public of operating its cars with reference to that ordinance. Unfortunately, this is a little ambiguous. But the first and last parts of the sentence would seem to indicate that the court means that the considerations of humanity referred to step in when, and when only, a municipal or statutory regulation to that effect is passed. And this would seem to be borne out by the further declaration, in this immediate connection that the duty to give the right of way is not absolute; it must "yield the right of way where possible," these last words being quoted, with *specific credit, from section 370 of the Ordinances of* New York; and, the court adding in the same sentence, it was proper that the jury should have this ordinance in view when determining the question of the defendant's negligence.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, March 24.

1.—*Preliminary Report on Etiology of Scarlatina. R. H. B. Gradwohl.
2.— Clinical Memoranda on Chronic Suppurative Otitis Media. John F. Oaks.
3.— Radiograph of Bullet Seen Through Osseous Tissue, in Femoral Trochlea, Two Lines from Surface of Bone. Charles Verge.
4.— Case of Cesarian Section. George G. Hopkins and Earle E. Woolworth.
5.— Medicolegal Case in Alaska: Forcible Injection of Corrosive Poison with but Slight Gross Lesions. Henry B. Fitts.
6.— Case of Addison's Disease, with Autopsy. William Fitch Cheney.
7.—*Parotitis Complicating Croupous Pneumonia. James Ely Talley.
8.—*Etiology and Pathology of Major Epilepsy. William House.
9.—*Reflex Neurosis from Phimosis. J. Orton Edie.

New York Medical Journal, March 24.

10.—*What Precautions Shall We Take to Avoid Leaving Foreign Bodies in the Abdomen after Operations? Howard A. Kelly.
11.—*Sheldon Murder Trial: Résumé of Expert Testimony for State. (*Concluded.*) Wm. M. Cheesman and Albert H. Hamilton.
12.—*Gout and Rheumatism; Their Etiology and Dietetic Treatment. William H. Porter.
13.—*Administration of General Anesthetics. (*Concluded.*) C. Algernon Temple.
14.—*Cerebral Complications Caused by Extension from Accessory Cavities of Nose. Robert H. Craig.
15.—*Treatment of Retrodisplacement of Uterus. I. L. Watkins.
16.—*Eructation, Regurgitation and Rumination. H. W. Lincoln.
17.— Case of Acetanilid Poisoning. O. R. Summers.

Medical News (N. Y.), March 24.

18.— Suprarenal Therapy. W. H. Bates.
19.—*Some Directions as to Care of Hair. George T. Jackson.
20.—*Neurologic Observations in the Hawaiian Islands. Daniel R. Brower.
21.—*Alcohol as a General Stimulant and Heart Tonic; Its Use to the Animal Economy in Health and Disease. T. J. Hillis.
22.— Thrust-Fungus as a Cause of Gastritis. W. A. Bastedo.
23.— Case of Transverse Presentation; Double Uterus. A. H. Hayden.

Boston Medical and Surgical Journal, March 22.

24.—*Open or Operative Treatment of Fresh Fractures; Is it Ever Justiable? With an Analysis of Results of Present Methods of Treatment in 153 Cases of Lower Extremity. Charles L. Scudder.
25.—*Intermittent Gastric Hypersecretion, with Report of Case. Arthur W Elting.
26.— A New Needle-Holder. G. H. Monks.
27.— Self-Closing Stopper for Ether Bottle. L. R. G. Crandon.

Medical Record (N. Y.), March 24.

28.—*Non-malignant Gastric and Duodenal Ulcers; with Illustrative Cases. Thomas E. Satterthwaite.
29.—*Treatment of Fatty Heart. Th. Schott.
30.—*Round Ulcer of Duodenum. Percival R. Bolton.
31.—*Prophylaxis and Treatment of Gonorrhea by Methylene Blue. Joseph A. O'Neill.
32.— Uretero-Vaginal Fistula; Operation; Cure. F. W. Johnson.
33.— Epileptiform Convulsions Following Intranasal Application of Cocain. Samuel Kohn.
34.— Gunshot Wound of Kidney. William F. Barry.

Cincinnati Lancet-Clinic, March 24.

35.—*Justus Test in Syphilis. Mark A. Brown and Geo. P. Dale.

Medical Review (St. Louis, Mo.), March 17 and 24.

36.—*Normal Prophylactic Appendectomy; a Symposium by American Surgeons.
37.—*Question of Prophylactic Appendectomy. Thomas H. Manley.
38.—*Additional Observations on Normal Prophylactic Appendectomy. Geo. F. Fowler, W. Anderson and T. A. Reamy.
39.—*Some Remarks on Antistreptococcus Serum with Report of Cases. Norvelle W. Sharpe.

Virginia Medical Semi-Monthly (Richmond), February 23.

40.— Four Cases of Penetrating Wounds of Abdomen—With Visceral Lesions and Wounds of Entrance above the Umbilicus. Hugh M. Taylor.
41.— Excision of the Shoulder-Joint. A. R. Shands.
42.— Consumptives and the State. Louis F. High.
43.— Heart in Life Insurance. John N. Upshur.
44.— Technique of Vaginal Hysterectomy, with Especial Reference to Consecutive Clamp Hemostasis. James N. Ellis.
45.—*Use of the Normal Saline Solution. Virginius Harrison.
46.— Report of 1371 Cases of Tuberculosis Treated in the Asheville Climate. James A. Burroughs.
47.—*Disinfection of School Rooms and Public Conveyances after Exposure to Infectious Diseases. Frank Warner.

American Gynecological and Obstetrical Journal (N. Y.), March.

48.— New Method of Making Applications to Vaginal Vault, and New Instrument to Facilitate Cleansing the Vagina in Leucorrhea. Howard A. Kelly.
49.—*When Shall the Uterus be Douched, and How Shall it be Done? Edward P. Davis.
50.—*Plea for More Surgical Practice of Obstetrics. Samuel L. Weber.
51.—*Remarks on Extrauterine Pregnancy. Charles P. Noble.
52.—*Detached or Parasitic Tumors of Uterus and Ovary. Henry C. Coe.
53.— Extirpation of Uterus, Vagina and Rectum for Carcinoma. William M. Polk.

Medical Reviews of Reviews (N. Y.), February 25.

54.— Medical Inspection of Schools. Wm. L. Robins.
55.— Treatment of Cancer by its Own Toxins. P. J. McCourt.

Maryland Medical Journal (Baltimore), March.

56.—*Case of Pneumonia Treated with Antipneumotoxin. Charles B. Canby.
57.—*Changes in the Skin in Paralysis Agitans. Robert Reuling.
58.— Electrolysis as a Means of Curing Chronic Glandular Urethritis. George Walker.
59.— Exstrophy of Bladder from Ulcerative Destruction of Scar of a Suprapubic Cystotomy. Louis Kolipinski.

Archives of Pediatrics (N. Y.), March.

60.— Dilatation of Colon. F. T. Stewart and Alfred Hand, Jr.
61.— Analytical Study of Certain Clinical Phenomena Observed in 112 Consecutive Cases of Chorea. John L. Steven.
62.— Two Cases of Idiopathic Hematuria. T. J. Elterich.

International Medical Magazine, (Philadelphia), March.

63.—*Treatment of Pulmonary Tuberculosis. S. Edwin Solly.
64.—*Tuberculin, Antituberculin and Antitubercule Serums. Joseph McFarland.
65.—*Diagnosis and Treatment of Tuberculosis of Bones and Joints. DeForest Willard.
66.—*Tuberculosis of the Skin. Jay F. Schamberg.
67.—*Tuberculosis of Nervous System. D. J. McCarthy.
68.— Franklinic Electricity and Methods of Application. (*Continued.*) Margaret A. Cleaves.
69.—*Laboratory Diagnosis of Tuberculosis of Urinary System. W. Wayne Babcock.
70.—*Tubercular Ulcerations in Stomach and Intestines: Use of Tuberculin. Boardman Reed.
71.—*Initial Forms of Tubercular Laryngitis. D. Braden Kyle.
72.—*Treatment of Consumption. W. Blair Stewart.

Laryngoscope (St. Louis, Mo.), March.

73.— Case of Fatal Sphenoidal Suppuration. Samuel Lodge, Jr.
74.—*Report of Case Illustrating the Importance and Possibilities in Early Recognition and Treatment of Malignant Growths of Larynx. W. K. Simpson.
75.— *Itching* of Auditory Meatus. Alex W. Stirling.
76.—*Silver Salts in Treatment of Chronic Suppuration of Middle Ear. E. B. Gleason.
77.— Report of Case of Persistently Recurring Epistaxis. C. C. Stephenson.

Medical Dial (Minneapolis, Minn.), March.

78.— Clinical Features of General Infection from Gonorrhea. A. Wang.
79.— Gonorrhea in Female. R. E. Cutts.
80.— Review of New Remedies and Methods in Treatment of Gonorrhea. C. D. Harrington.
81.— Prophylaxis of Gonorrhea. Knut Hoegh.
82.— Remarks on Joint Diseases. Knut Hoegh.

St. Louis Courier of Medicine, February.

83.—*Increasing Frequency of Malignant Disease. Joseph D. Bryant.
84.—*Studies of Lactoserum and on Other Cell Sera. C. Fisch.
85.— Climate of Tucson, Arizona. A. W. Olcott.
86.— Relative Value of Antisepsis and Improvement in Technique, as Regards the Actual Results in Operative Gynecology. L. Gustave Richelot.

The Stylus (St. Louis, Mo.), March.

87.— Terminology in Nervous Disease. Sidney I. Schwab.
88.— Infantile Convulsions. Remy J. Stoffel.
89.— Fibroma of Ovary. L. H. Laidley.
90.— Abuse of Medical Ethics. R. M. Ross.

Merck's Archives (N. Y.), March.

91.—*Present Status of Antiseptics in Surgery. Thomas H. Manley.
92.— Orexin Tannate in Anorexia. J. W. P. Smithwick.
93.—*Use and Abuse of Ergot in Obstetric Practice. J. H. Jackson.
94.—*Antidote Apparatus for Use in Poisoning by Hydrocyanic Acid and Cyanids. E. Merck.

Cleveland Journal of Medicine, February.

95.—*Digitalis and its Aids in Chronic Cardiac Disease. J. B. McGee.
96.—*Feeding in Typhoid Fever, with Report of Cases George W. Moorehouse.
97.—*Bloodless Enucleation of Tonsils under Local Anesthesia. Royce D. Fry.
98.— Prevention of Deafness. J. G. Grant.

Occidental Medical Times (San Francisco), March 1.

99.—*Choice of Operation for Radical Cure of Inguinal Hernia. Emmet Rixford.
100.—*Limitations of Gargle—Some Internal Uses of Formalin. Saxton T. Pope.
101.— Remittent Fever. T. B. Reardon.

Richmond Journal of Practice, February.

102.— Old-Time Monthly Nurse. W. A. Plecker.
103.— How Does Albumin Get in Urine? *M. D. Hoge, Jr.*
104.— Painful Ulcer and Fissure of Rectum. Livius Lankford.
105.—*Uses of Normal Saline Solution. Virginius Harrison.

Journal of Mississippi State Medical Association (Biloxi, Miss.), March.

106.— Uranalysis. W. R. Neville.

Denver Medical Times, March.

107.—*Climate for Nervous Diseases. Henry W. Coe
108.— Medical Legislation; Its Relation to the Laity and Medical Profession. R. Harvey Reed.
109.— Chronic Interstitial Nephritis. Edward C. Hill.
110.— Treatment of Hemorrhoids. W. A. Kickland.
111.—*Case of Pneumothorax. Alfred Mann.

Medical Council (Philadelphia), March.

112.— Eye: How it Sees; its Defects and Their Cure with Glasses. A. H. P. Leuf.
113.— Radical Cure of Grave and Remarkable Digestive Disease. Paul Paquin.
114.— Plea for More General Use of Anesthesia to Full Surgical Degree in Version in Obstetric Practice. D. S. Hanson.
115.— Use of Forceps in Normal Labor. S. Herbert Britton.
116.— Neurasthenia. Irving D. Wiltrout.
117.— Suggestive Therapeutics, Magnetic Healing and Osteopathy. T. H. Line.
118.— Pigeon-Post Pointers. Charles L. Lang.
119.— Otorrhea. E. B. Gleason.

Medical Bulletin (Philadelphia), March.

120.—*Rational and Scientific Investigation and Treatment of Epilepsy. A. L. Ranney.
121.—*Electric Treatment of Two Cases of Hemorrhoids. John V. Shoemaker.
122.—*Case of Tetanus Treated by Subdural Injections of Antitoxin and Hypodermic Injections of Carbolic Acid. Ernest LaPlace.

Memphis Medical Journal, March.

123.—*Mosquito as Definite Host in Malaria. Wm. Britt Burns.
124.— Injuries of Patella. Report of Case of Stellate Fracture. Wm. D. Sumpter.
125.—*Retrodeviations of Uterus. W. B. Sanford.
126.—*Care of Mouth and Teeth in Syphilitic. C. Travis Drennen.
127.— Important Factor in Treatment of Malarial Complications. C. R. Shinault.
128.—*Was it a Nervous Reflex? Report of Case. A. L. Elcan.

Medical Mirror (St. Louis, Mo.), March.

129.—*Different Phases of Electric Treatment. J. McFadden Gaston.
130.— Nicholas Senn, M.D., L.L.D. Byron Robinson.
131.—*Use of Serum in Consumption and What to Expect. Paul Paquin.
132.— Tuberculosis Pulmonalis: Facts vs. Fads. H. J. Tillotson.

Medical Summary (Philadelphia), March.

133.— Important Medical Thoughts. James G. Atkinson.
134.— Obscure Abdominal Trouble. J. J. Waller.
135.— Retail Druggist vs. Physician. Geo. A. Harris.
136.— What Causes Disease. J. M. Hamilton.
137.— Antiseptics—Iodoform. Joseph Adolphus.
138.— Syphilis. Wm. V. Wilson.
139.— Irrigations, Drainage and Dressings. Thos. H. Manley.
140.— Acute Articular Rheumatism. Wm. Hooker Vail.
141.— Treatment of Catarrhal Conjunctivitis. Milton P. Creel.
142.— Concerning Finger Amputations. Arthur E. Strong.

New York Lancet, February.

143.—*Should a Colostomy be Done for Cancer of the Rectum? Joseph M. Mathews.
144.—*Treatment of Compound Fractures. Charles G. Cumston.
145.— Radical Operation for Hydrocele. Geo. Everson.
146.— Unusual Case of Hyperchlorhydria. H. W. Lincoln.

New England Medical Monthly (Danbury, Conn.), March.

147.— Southern Colorado, Its Climate: Therapeutic Value in Diseases other than Phthisis Pulmonalis. H. Foster Hazlett.
148.— Report of Obstinate Case of Ulceration of Cervix Uteri. G. A. Gilbert.
149.— Fracture at Base of Skull, with Recovery. Newell C. Bullard.
150.— Functional Constipation and its Treatment. A. J. Jenkins.
151.— Tolland County Medical Society, Springs House, Oct. 17, 1899. C. B. Newton.
152.— Alopecia. L. Duncan Bulkley.

Memphis Lancet, March.

153.—*Fractures of Lower Extremities. Jere Lawrence Crook.
154.— Smallpox. F. S. Raymond.
155.— Elephantiasis of Scrotum. G. G. Buford.
156.— Importance of Early Diagnosis of Adenoid Vegetations. M. A. Goldstein.
157.— Report of Case of Pseudo Cyesis. Alfred Moore.

Georgia Journal of Medicine and Surgery (Savannah), February.

158.— Preliminary Report of Discovery of Ameba and Plasmodia in Cultures from Blood of Persons Suffering with Malaria and Paludal Fevers, and Discovery of Motile Bodies in Human Blood Plasma and Their Growth in Pure Culture, with Some Remarks Pertaining to the Subject. St. J. B. Graham.
159.— Recent Investigations Concerning Hematozoa of Malaria. William Sidney Thayer.
160.— Prevention and Treatment of Pelvic Inflammatory Diseases in Female by General Practitioner. R. R. Kime.
161.— Nasal Obstruction and its Influence. J. Lawton Hiers.
162.— Case of Diphtheritic Sore Lower Lip with Secondary Infection of Throat. Jno. R. Rose.

AMERICAN.

1. **Scarlatina.**—Gradwohl has found Class' diplococcus in seven cases of scarlatina, which he has been able to examine since his investigation began. He describes its characteristics and believes that it is the specific etiologic factor of the disease.

7. **Parotitis in Pneumonia.**—This rare complication of pneumonia is discussed by Talley, who notices the cases heretofore reported and gives one of his own observation.

8. **Epilepsy.**—The convulsions due to hemorrhage, alcohol and paresis are compared with the epileptic *grand mal* by House, who believes that the increase in quantity of cerebrospinal fluid bears a causal relation to the convulsion. He concludes that: 1. We have no record of pathologic findings which logically explain the symptoms of epilepsy. 2. An increase of cerebrospinal fluid would readily account for the seizures. In many instances it is analogous to the marked increase of fluid in the crania of alcoholics and paretics, and is not dissimilar in clinical effects to the more localized lesions of hemorrhage or abscess. 3. This fluid, physiologically subject to more or less variation in quantity from day to day, is fully capable of pathologic increase, and from analogy must bear exciting relation to the convulsion. 4. Its increase is probably gradual, and to this we may ascribe the auræ. 5. Its absorption probably begins with the third stage of the convulsion—relaxation and coma—and if this fails, repeated convulsions—status epilepticus—ensue. 6. Its superabundance may be due to lymphatic spasm, or to marked disturbance of equilibrium between lymphatic and general circulatory activity, which may be favored by heredity, toxemia, or any of the recognized predisposing causes. 7. This creed applies to the so-called idiopathic epilepsy, as distinguished from the convulsion of Jacksonian epilepsy, in which there is a local cerebral lesion, although even in such cases, the condition described will help to explain many otherwise unexplained symptoms.

9. **Reflex Neuroses from Phimosis.**—Edie reports several cases of impotence, urinary retention, respiratory neurosis, and insanity relieved by operation.

10. **Foreign Bodies in Abdomen.**—Kelly reports three cases which have come under his observation during the last ten years, in Baltimore, where gauze or sponges were left in the abdomen in operations, and notices the dangers. To avoid such accidents he recommends always commencing with a definite number of gauze pieces and sponges, and if more are added have careful note taken of it at the time. Entirely abandon the use of small sponges and packing gauze up in the abdomen out of sight. The use of tapes or strings is not an absolute safeguard. The operator should ask, at the close of the operation, how many pieces of gauze and how many sponges are called for, and the answer should be positive. Under no circumstances should the count be muddled by cutting them. It is his practice to make two persons responsible for the number of pieces used and their production at the end of the operation, viz., the assistant who handles the sponges and the nurse. The discarded gauze or sponges must always be thrown in a receptacle, never under any circumstances *mixed with other things or carried out of the room.* He has had a special rack made for the purpose, which he illustrates. This contains a definite place for each article used. In addition to all precautions the surgeon must always use his own judgment in taking exact note of everything put into the abdomen, and it may be of service to state it aloud as each piece is put in. An examination should be made in *all* cases, by actual inspection and touch, that nothing has been left behind. Such an examination will not be too extreme unless there is a missing article to be discovered.

11. **Sheldon Murder Trial.**—Cheesman and Hamilton conclude their article on the Sheldon murder trial and figure out the spread of powder grains in the skin at the various distances from the muzzle. They claim to see that in this special case the shot was not fired at contact, and that Dr. Phelps thus becomes a witness for their side of the case.

12. **Gout and Rheumatism.**—After discussing the theories of uric acid production and its causes in the organism, Porter claims that it is produced by oxidation of proteid substances in the protoplasm of the renal cells. It is one method for the elimination of nitrogen in the system, and when it rises above the normal it is simply the symptom found in the urine which indicates an imperfect state of the proteid oxidation and a general condition of malnutrition. It becomes in these instances a chemical irritant of parts of the body, and produces a local inflammatory action until the fibroplastic exudate is thrown around the urate of sodium precipitated in the cartilage and elsewhere. He notices the bacteria theory, but thinks that it does not thoroughly explain the condition,

though the toxins acting on the alimentary canal may give rise to it. The diet is discussed and the relative value of vegetable and animal food stated. In some cases where the indigestibility of the vegetable and the difficulty of disposing of the saccharine contents and their liability to fermentation can be avoided, the vegetable diet may be very satisfactory; fruit should usually be avoided. The adaptability of the system to any special form of diet must also be considered in each individual case. The best results require utilization of both animal and vegetable foods. The mixed diet, free from excess of saccharine elements and substances liable to excite putrefactive fermentation, as little irritating as possible to the alimentary canal and not in quantities to excite oxygenating capacity of the system, will give the best results. Add to this considerable medication to augment digestion and absorption and stimulate glandular action in general and many cases will speedily recover which would otherwise become chronic and incurable.

13. **Anesthetics.**—Temple thinks there is a future for the Schleich method of anesthesia, and that it will revolutionize the old ones. The mortality from chloroform is discussed and the best methods for preventing it, also the avoidance of the uncomfortable complications of nausea, vomiting, headache, etc.

14. **Cerebral Complications from Nasal Extension.**—In this article Craig reports cases and describes the effects of pressure from the nasal veins on those of the meninges, and the nasal etiology of cerebrospinal meningitis.

15. **Retrodisplacement of Uterus.**—Watkins says that when determining the best method of treatment in any cases of retrodisplacement, the several following questions should be answered: 1. Is there any disease of the pelvic organs that would be benefited by operative measures? 2. Is it a case where a pessary can be fitted without difficulty? 3. Can the patient have intelligent medical care while wearing the pessary? 4. Is she willing to give the time necessary for her recovery? Diseased appendages should be removed and the fundus suspended from the abdominal wall. If it is impossible to fit a pessary, this operation should be resorted to, otherwise the patient will not appreciate your efforts, and she will justly look for some one who will operate. It is unwise to send a patient away when she will not be looked after, as too long or improper use of this instrument will produce damage, which will be charged to the one who inserted it. As to the time necessary to wear a pessary for relief, that varies. At intervals of three to six months he removes it for a few days, and if the organ remains in position, discharges the patient. He favors a hard rubber Hodge instrument, which can be slightly molded by oiling and holding over an alcohol lamp. When endometritis or laceration of the cervix with glandular infiltration exists, the condition should be corrected. Adhesions may require laparotomy, as also cases of neoplasms. He thinks the Alexander operation has been performed too much.

16. **Eructation, Regurgitation and Rumination.**—These three conditions are noticed and their treatment described by Lincoln. In the first, suggestion is all-important; perhaps a little bromid may aid. In regurgitation, which is more common than is generally supposed, the patient should reswallow the food as fast as regurgitated, should always eat in company, and the diet should be regulated. Bromids may sometimes be needed; electricity, externally and internally may do good. Rumination, which is the most serious condition, is not usually dangerous to life. The cause must be removed if possible, and strong will-power is the best thing. Meals should be served in the presence of some one whom the patient respects, the diet regulated with strict regard to gastric secretion. He uses, as far as possible, foods that remain but a short time in the stomach, and warns and guards against contraction of the abdominal muscles. A good idea, suggested by Hemmeter, is to administer some very bitter preparation at meal time. He had used quinin, and Lincoln suggests a formula containing condurango, quassia, gentian, nux vomica, and capsicum. He says the patient once regurgitating this mixture will not do it again. Internal faradization acts well, and alkalies or hydrochloric acid may be used as indicated.

19. **Care of the Hair.**—Patients sometimes ask advice in regard to the care of the hair, especially when it is falling out, as after fevers. There is little to be done. Once or twice a week a little ointment consisting of precipitated sulphur, ʒi, to good cold cream, ℥i, should be gently worked into the scalp, and every two or three weeks, the latter should be washed and a little pomade applied as soon as the hair is dried. Once in two to four weeks is usually enough to wash the scalp; it is bad to wash it too often. The best soap is a liquid one, such as the tincture of green soap, and whatever soap is used must be thoroughly washed out and a little pomade rubbed in to take the place of the natural oil that has been washed out. He thinks that the use of hair ointments that will not turn rancid, once a week is good. Avoidance of wetting the hair would diminish the frequency of baldness. As regards cutting the hair it makes no difference how often it is cut, and singeing is a foolish fashion with no basis to recommend it.

20. **Neurologic Observations in Hawaiian Islands.**—Brower finds the Hawaiian climate somewhat depressing on the sea coast, and neurasthenia is not uncommon, while it is an ideal place for spinal sclerosis generally. Insanity among the natives is generally mild. Leprosy in the islands is an important subject. The difficulty of stamping it out is enhanced by the lack of fear of the disease on the part of the natives and the tendency to conceal it. When a case is discovered it has generally been spreading infection for a long time. It seems to affect the white race but little.

21.—See abstract in The Journal of Nov. 4, 1899, p. 1164.

24. **Open Treatment of Fractures.**—Scudder, whose article is continued, thinks the ideal result is union without deformity and impairment of the function, and that the generally used methods of treating closed fractures do not give satisfactory results. They can be safely treated by open incision and internal fixation when other methods fail to secure reduction and immobilization.

25. **Intermittent Gastric Hypersecretion.**—Elting reports a case of this disorder which is characterized by intermittent attacks of nausea and vomiting occurring usually when ingesta are no longer present in the stomach. The diagnosis is not difficult, though there may be some confusion if associated with gastric crises in tabes. The treatment is not very satisfactory. During the attack, the indications are to remove the accumulated secretion with a stomach-tube, and use weak alkaline lavage, or 1 to 1000 silver nitrate solution. When the pain is very severe, anesthetics may be indicated. Food should be given only between paroxysms and in small quantities, preferably fluid. Subcutaneous infusion or rectal enemata of normal salt solution are the best means of allaying the sometimes intense thirst. As the disease appears to be a functional neurosis the constant tonic treatment of the nervous system is indicated. Cold water treatment is often good. Strychnin, quinin, morphin, etc., are indicated, and care should be used to guard against mental excitement.

28. **Gastric Ulcer.**—According to Satterthwaite, gastric ulcer is comparatively rare in this country, more so than in some parts of Europe. It seems to be more frequent in females. The causes are numerous, but the evidence that tuberculosis is a cause is accumulating; syphilis is another prominent one. The symptoms are described and the treatment given. Two things should be emphasized, relief of immediate symptoms and care of the ulcer. For this he advises rest in bed, rectal feeding for some days after hematemesis, warm applications to the epigastrium, avoidance of the stomach-tube, etc. The mortality in medical treatment is small, but in some cases surgical operation is the only possible resort for saving life, and the dangers of surgery are rapidly lessening. The most dangerous complication is peritonitis, which should be recognized at the earliest moment. Subphrenic abscess is another important surgical complication. The duodenal ulcer is practically identical, anatomically and etiologically, with gastric ulcer, excepting that possibly it is more frequent in association with burns. Six cases are reported.

29. **Treatment of Fatty Heart.**—Schott describes the methods that have been advised in cases of fatty heart

describes his own with regulated, resisted exercises and baths at Nauheim. The article is illustrated with reproductions of sphygmographic tracings.

30. **Duodenal Ulcer.**—Bolton reports five cases of round ulcer of the duodenum, and discusses its surgical treatment. Of the operations, the most eligible consists in excision of the ulcer, which can be done in almost any part excepting at the entrance of the pancreatic duct. The incision need not go very wide of the ulcer, but must be closed by Czerny-Lembert sutures, as in pyloroplasty, so that the suture line lies at right angles to the long axis of the gut. The peritonitis attending perforation should be treated according as it is localized, spreading, or general. In the first case, if well circumscribed by adhesions, nothing is necessary beyond sponging out the pus and supplying gauze drainage. For spreading or general peritonitis, it is sometimes doubtful what should be done, but the author does not think that any great advantage is gained by eviscerating the patient or extensive manipulations. So far as removal of blood exudates is concerned, this can be done as well by carrying a large quantity of salt solution through the Chamberlain tube to all parts of the cavity until the returning fluids become clear. Drainage should be done to the point of infection. He has not found it necessary to drain other regions which have simply been repositories of turbid serum.

31. **Methylene Blue in Gonorrhea.**—The advantages of methylene blue in gonorrhea are mentioned by O'Neill, who suggests its use in the prophylaxis of this disorder.

35. **Justus Test in Syphilis.**—The article of Brown and Dale is an elaborate study of the Justus test, which consists in the observation of the diminution of hemoglobin. The author's conclusions are: 1. The test is not always reliable, though present in many instances. 2. It is occasionally present in diseases other than syphilis, and in which active syphilis can be excluded. 3. These exceptional diseases are characterized by great hemoglobin anemia. 4. It is necessary to try the test in a series of cases of the essential anemias before claiming it as absolute. 5. The low point is not necessarily reached after the first inunction. 6. Practically the test is of but little value.

36-38. **Normal Prophylactic Appendectomy.**—The issue of the *Medical Review* for March 17 is almost entirely taken up with responses to inquiries addressed to various American surgeons as to the propriety of performing appendectomy in infants and children to prevent future appendicitis. Over 80 physicians give their opinions, which were more or less decidedly unfavorable, with the exception of half a dozen. The list includes most of the prominent surgeons in the country. In the issue of March 24, Manley furnishes a more elaborate article on the subject, and concludes that there is no condition of any kind whatever which ever warrants any description of mutilation of the body in well-formed vigorous children. He doubts whether the sanitary advantages claimed for circumcision justify the operation. Several surgeons whose names were not included in the first list also give their opinion against the procedure.

39. **Antistreptococcus Serum.**—Sharpe notices the known facts in regard to antistreptococcus serum, noting in full the conclusions of the committee of the American Gynecological Society in 1898. He thinks, however, that the serum deserves further trial, and reports two cases in his own experience in which it was used with satisfactory results.

45.—This paper is also titled elsewhere in this issue of The Journal: see title 105.

47.—This paper has appeared elsewhere: see The Journal of March 17, title 98, p. 674.

49.—See abstract in The Journal of March 3, p. 561.

50. **Surgical Obstetrics.**—Calling attention to the fact that obstetrics is largely in unskilled hands, Weber insists on the need of more attention to the possible morbidity of the parturient condition. He thinks that a woman has a right to expect more than that the child should be born alive, and that she should not get fever or merely escape without a serious perineal tear. He describes what he considers a proper method of conducting an obstetric case, which implies general knowledge of prior medical history as well as careful attention to every detail during parturition. Most careful search should be made for possible injuries, especially for laceration of the levator ani muscle or the floor of the pelvis, which is often very serious in its consequences.

51.—See abstract in The Journal of March 3, p. 561.

52. **Detached Tumors.**—Coe's article is based on a case recently observed, in which a tumor was found adherent to the bladder. It had been a subperitoneal fibroid, probably attached to the anterior surface of the uterus and separated by rotation. The points of clinical interest were the persistent pains at the side of the tumor, its resemblance to ovarian neoplasms and the absence of vesical disturbance, and incidentally the development of tubal pregnancy, which masked the original symptoms. He reviews the pathology of the condition and concludes: "Subperitoneal fibroids may become completely detached from the uterus and may receive their nourishment entirely through adhesions. Such transplantation with entire disappearance of the pedicle must be exceedingly rare. Although axial rotation is probably the first step in the process it is fair to assume that vascular adhesions form before separation is complete. Clinically these tumors may be mistaken for growths developing primarily in the organ to which they contract adhesions, especially ovarian, renal and splenic. Transplantation of ovarian and parovarian cysts is less common, and is more likely to be followed by degenerative processes. Chronic rather than acute axial rotation is the usual cause. The clinical diagnosis of this condition is practically impossible. The prognosis is better in cases of solid than in those of cystic tumors."

56. **Antipneumotoxin.**—Canby reports a case of severe double pneumonia, in a man aged 20, with temperature 105, pulse uncountable, respiration 56. He was given 12 c.c. of antipneumotoxin, and in three hours his temperature fell 2½ degrees; respiration was 24 and pulse 96. He received another dose and his improvement was after that uninterrupted. The attack itself was a second one, or rather a relapse after the first. Two other cases are reported with similar good results, which occurred in the practice of one of his confrères. He does not give the source of his serum, but it is apparently similar to that of Pane.

57. **Skin in Paralysis Agitans.**—The changes in the skin which have been reported by Frenkel, are here noted by Rueling, who reports a case with careful microscopic examination. In the six cases which were examined, these changes were found in four. They consisted in a thickening of irregular distribution with loss of elasticity and accompanied with pains located in just these parts. Reuling thinks that these pains are due to the constrictions of the sensory nerves involved. The skin thickening, he believes, is a trophic phenomenon of the disorder, and not especially due to toxic substances in the blood, as suggested by Frenkel.

63. **Treatment of Pulmonary Phthisis.**—The first step in intelligent treatment of pulmonary tuberculosis is a study of the personal and family history, what depressing conditions or diseases have preceded it, and what the family history has been in regard to probable resistance to disease. When this reveals an inherent deficiency of resistance, the treatment almost always requires a radical change of life, and climate if circumstances will permit. Solly seems to think that a collateral history of consumption in brothers and sisters is more serious as indicating predisposition of disease than direct parental heredity. He says that, with certain exceptions, patients with family phthisis do not do any worse but rather better than those without it. As regards the question of climate, the following statements are true: Cold is better than heat; dryness than dampness; sunshine than cloudiness; high ground rather than low; wind in moderation is healthy and stimulating, unless it be damp, in which case it is depressing. Variability of temperature with dryness is generally beneficial, and with dampness the reverse. The best climate for the consumptive is one in which cool, dry air can be taken into the lungs while the surface of the body is stimulated by warmth, light and bright sunshine, and in which at night the chamber windows can be safely left open so that the patient may

breathe cool, dry air while sleeping under a warm cover. He thinks that diminished barometric pressure is better than dryness in checking the progress of phthisis. He divides consumption into three classes, the tuberculous, catarrhal and pneumonic, all being tuberculous. In the first, the tuberculosis seems to overshadow the other conditions. These have usually a marked feebleness of resistance. The catarrhal group comprises those subject to catarrhal attacks, and in whom the obstruction of the nose or nasopharynx is very common and bronchitis frequent. The pneumonic group embraces those cases in which an inflammatory process has usually preceded the tuberculous invasion and the disease advances by leaps, following recurrent catarrhal pneumonias. The tuberculous do best in high, cold, dry climate. The catarrhal also do best in high, dry sunny regions, but preferably warm to cold. The pneumonic cases are better off in a climate of medium elevation, with plenty of sunshine and moderate in warmth and dryness.

64. **Tuberculin.**—McFarland reviews the history of tuberculin, its method of manufacture and its results as far as known. The general impression left by his paper is that treatment by it is not yet matured or thoroughly effective.

65. **Tuberculosis of Bones and Joints.**—The most important point made by Willard is that many cases of tuberculosis are called rheumatism until the disease is seriously advanced. He thinks the profession should absolutely recognize the fact that rheumatism in a single joint in a child never exists without positive indications of fever, swelling, heat, etc. The symptoms of invasion of the tuberculosis are usually plain. Muscular rigidity is one of the earliest and most reliable. The onset may be some slight traumatism that may be past and forgotten. Heat and swelling are absent in the early stages, and the diagnosis should be made long before they appear. The examinations are liable to be too superficial, one of the greatest sources of errors. Another common error is too much dependence on a history of tuberculosis in these patients. There is but one rational line of treatment: 1. To fortify the entire resisting powers of the individual and repel all elements so as to ultimately cure the disease. 2. To assist these powers by rest and mechanical measures to prevent inflammatory action leading to mixed infection and suppuration. 3. Removal of the diseased focus or its products as necessity arises. Each of these indications is discussed in detail and measures described.

66. **Tuberculosis of the Skin.**—The skin diseases of tuberculous origin are given by Schamberg as follows: Tubercular ulceration, anatomic tuberculosis or verruca necrogenica, and a somewhat similar condition known as tuberculosis verrucosa cutis, met with in butchers, cooks, etc. Scrofuloderma is a term used for that form of tuberculosis of the skin around caseating and suppurating lymph glands, and with those also associated symptoms of scrofula. Lastly, we have the most important of all forms, lupus vulgaris. In all of these infections the tubercle bacillus can be found, though sometimes only after laborious search. In lupus vulgaris and the warty form the skin infection is usually primary. Ordinarily these troubles do not give rise to generalized tuberculosis. The treatment should consist in extirpation of the diseased tissues, with as little resultant scarring as possible, performed by knife, curette or caustics. Finsen's light treatment is also mentioned. Plenty of nutritious food should be given, with attention to hygiene.

67. **Tuberculosis of Nervous System.**—The conditions mentioned by McCarthy are meningitis, which may be generalized or, less frequently, circumscribed, myelitis, encephalitis, tuberculous tumors, insanity, hysteria, etc.

69. **Tuberculosis of Urinary System.**—Babcock's article is an elaborate description of the methods of examining the urine for tubercle bacilli. He calls attention to the special points of cleanliness in obtaining the specimens, and the certainty that the smegma bacillus is excluded.

70. **Intestinal Tuberculosis.**—Existing in children, according to Reed, tuberculosis of the intestine is nearly always due to swallowed sputum, and is only amenable to palliative treatment. He calls especial attention to the tuberculin test, which he believes is an important diagnostic agent and perfectly safe if properly used. In the treatment of gastrointestinal tuberculosis, all the usual modern methods are applicable, including the hygienic, climatic, etc. Special attention should be given to each case, with occasional tests of stomach contents, frequent analysis of the urine, a study of the blood, and occasionally in some cases examination of the feces. Medicine by the mouth is to be given with care, and reaction of the digestive organs should be carefully watched. One or two drop doses of Fowler's solution suits most cases. The various phosphates, strychnia, and iron preparations are liable to disagree in the usual doses when the gastric glands are excited or irritated. Hydrotherapeutic measures are often useful. Gymnastics, horseback riding, cautious bicycle riding and mountain climbing for those who have good circulation, are to be recommended.

71. **Tubercular Laryngitis.**—A large part of Kyle's article is a translation of one by Monsarrat, pointing out the signs of laryngeal tuberculosis. He himself remarks in regard to the tuberculin test, that it should be employed only with great care. The importance of positive diagnosis at the earliest possible moment is urged.

72. **Treatment of Consumption.**—Stewart advises the open air treatment as far as possible, perfect hygienic surroundings, daily baths gradually becoming cooler until the patient can stand cold baths; short salt baths every three or four days are often of use. Unsuitable clothing is responsible for much trouble. He advises medium mixed woolen and cotton underwear for winter and very light weight for summer, using heavy or light wraps as need be. The better the patient stands cold the easier his management. Air baths, consisting in removing all clothing and remaining naked in the air of the room, are advised. Consumptives should always sleep alone. Diet is important. Rich milk and cream should be given three times daily, if it can be digested, and we should feed the patient all the simple albuminous foods he can assimilate. When the stomach refuses to act, the case is hopeless. Exercise and gymnastics short of fatigue, never just after a meal, are to be systematic, moderate and regular, and under a physician's direction. The medical treatment is largely symptomatic. He keeps his patient in bed when the temperature is above 95, and allows no active exercise until it is below that point. Good cheerful company adds materially to the effects of treatment. He thinks no patient is absolutely cured, but the disease may be arrested so that the patient may enjoy apparently good health for very many years.

74. **Malignant Growths of Larynx.**—The case reported by Simpson was subjected to three operations, the conditions of which are illustrated by cuts. He calls attention to the important fact that all new laryngeal growths in the adult, especially if recurrent, however simple they may appear, should be regarded with suspicion and prognosis made accordingly. His case also illustrates the difficulty and anxiety attending positive diagnosis in very early cases, where a period of transition is apparently present and where microscopic examination admits of some doubt. It also shows the satisfactory results from persistent efforts of removal and the possibility of cure without resorting to the major operation of laryngectomy.

76. **Silver Solution in Ear Operation.**—From the four cases here reported, Gleason is inclined to think that protargol is an antiseptic astringent superior to any now used in chronic middle ear suppuration. He admits the small number of cases and submits this preliminary note on account of the rapidity of the cures. Unlike nitrate of silver solution, it is unirritating to the posterior pharyngeal wall, and he has used it there as well as in the atrium and auditory canal.

83. **Increasing Frequency of Malignant Diseases.**—Reviewing the statistics as given by Park and others, Bryant concludes that malignant cancerous diseases are increasing, and that in spite of the improved methods of surgical treatment the frequency of attacks in the different parts of the body is also changing. The increase has been comparatively slight in the formerly most common seats, the mammary and genital organs of women, but as shown, it is notable in the

intestines, rectum, liver, etc. He does not believe that facts point strongly to the parasitic origin. As regards treatment, he points out the great improvement in the statistics of surgery, and the importance of early recognition and thorough removal of the infected parts. The discovery of a tumor demands prompt diagnosis of its nature.

84. **Lactoserum.**—Fisch's paper is a report of his own investigations of animal sera and especially those of milk.

91. **Antiseptics in Surgery.**—Manley reviews the history of surgical antisepsis, showing it was overdone at the first and that asepsis, which is the favorite term at the present time, simply means modified antisepsis. Antiseptics occupy a prominent place in the practice of antisepsis, and soap takes first place. They are not now employed during an operation, but are rigidly restricted in non-infected cases to before and after the surgical procedure. The actual operation therefore, is the only aseptic part of the whole performance. The dry treatment of wounds marks a notable advance.

93. **Ergot in Obstetrics.**—The advantage of ergot in obstetrics, according to Jackson, are chiefly the prevention of post-partum hemorrhages, though he would give it in early stages if labor is slow, until the escape of amniotic fluid. As a rule, however, it is neither necessary nor desirable, and there are other agents that are better. It should not be thought of if rupture of the membranes has taken place, unless it is known that the fetus is dead. Shall we give a dose just before or just after birth to prevent excessive hemorrhage? He says an intelligent physician would not, but with the routine physician it would be safer to give it in all cases. The other methods to prevent post-partum bleeding should not be neglected. He thinks ergot would not give rise to rupture under proper restrictions in one case in thousands, and he doubts whether it could occur in healthy persons. It does not increase the danger in pregnancy if Bright's disease exists, but it should never be taken during pregnancy before labor.

94. **Cyanid Poisoning.**—Merck describes an apparatus as an antidote for cyanid poisoning, which transforms the hydrocyanic acid into oxamid by means of hydrogen dioxid. A 3 per cent. solution of hydrogen dioxid is given from a sealed flask, by subcutaneous injection, every three to five minutes, in various parts of the body, until the respiration becomes normal again and pulse strong. A number may be made rapidly if necessary, and the stomach is washed out with another solution of the same agent.

95.—See abstract in The Journal of Jan. 13, p. 110.

96.—Ibid., p. 111.

97.—Ibid., Dec. 16, 1899, p. 1552.

99. **Inguinal Hernia.**—After reviewing the different operations, Rixford suggests the following indications for the choice of operation in different forms of oblique inguinal hernia. The Kocher operation would be suitable for congenital or infantile cases when the canal is very slightly distended and the sac long and narrow. The Bassini and Macewen operations will probably be best in cases where the conjoined tendon is found to be firm and well developed, the latter to be preferred where, with these, the aponeurosis of the external oblique is not greatly stretched. The Bassini would perhaps be better where it would seem advisable to take up slack in the external oblique by approximating the pillars of the external ring and where, on account of adhesions, it is necessary to cut the external oblique in order to reduce the hernial contents. The real grounds for debate in the hernia question are in the management of cases in which the conjoined tendon is thin and weak and where none of these, nor the Championiere operation, is satisfactory. Andrews has devised a so-called imbrication method by which a flap is lifted up from the aponeurosis of the external oblique to pass beneath the cord, making an aponeurosis canal. Rixford thinks there are some serious objections to this, and that not enough cases have been operated on as yet to prove its value. Bloodgood has offered a method of utilizing a portion of the rectus muscle to fill in the gap on the inner side of the canal, and Rixford thinks, from anatomic considerations and results obtained, this method deserves trial.

100. **Limitations of Gargle—Formalin.**—Pope has experimented with methylene blue to determine the limitations of the parts reached by the gargle, and he finds that it is practically limited to the buccal membrane, the uvula and tongue. Where the pharynx and larynx are to be medicated, a spray is better. He also recommends the internal use of formalin as an internal antiseptic, and also for the disinfection of urine.

105. This paper appears elsewhere: see title 45, above.

107. **Climate for Nervous Diseases.**—Coe gives figures, temperature tables, etc., comparing the climate of Portland, Ore., with those of various interior health resorts. He calls attention to the special benefits of its mild, and soothing climate.

111.—See abstract in The Journal of March 17, p. 689.

120. **Treatment of Epilepsy.**—Ranney here repeats his arguments in favor of his theory of eye strain causing epilepsy, and reports several cases.

121. **Electricity in Hemorrhoids.**—The theory of Shoemaker, here given, is that the negative pole of the galvanic battery properly applied will reduce the strangulation of hemorrhoids and tend to restore normal circulation. He reports two cases where the use of the galvanic current produced permanent cure in strangulated hemorrhoids.

122.—See abstract in The Journal of March 3, p. 560.

123.—Ibid., Dec. 2, 1899, p. 1420.

125.—Ibid.

126.—Ibid., p. 1421.

128.—Ibid.

129.—This paper has appeared elsewhere: see The Journal of March 3, title 170, p. 549.

131. **Serum Treatment in Tuberculosis.**—Paquin enumerates the indications for the use of serum in tuberculosis. It is not always indicated in all cases, but in incipient ones especially it may be expected to be of benefit. The heart and urine should be carefully examined, as cardiac insufficiency and albumin, while not direct counterindications, suggest caution in dosage and administration. Begin with small doses, and 30 drops a day, six times a week, is enough after tolerance is established. There is great difference in individual susceptibility, and there may be slight eruptions or flushings, etc., in some of these patients, which should cause the cessation of the treatment for a time. A fine, sharp needle, rather than a coarse one, should be employed, and the patient should be rested one week in six, beginning again with a small dose, say five drops. The stomach, bowels and kidneys should be watched, diet regulated, and proper climatic conditions, when available, utilized. One must remember that the results are sometimes slow, and patience and persistence in treatment is essential. In cases where there seems to be much pus infection, he uses antistreptococcus serum. In some he finds serum injected into the bowel beneficial; this dose should be about twice the hypodermic one, and should be diluted with equal parts of water to facilitate absorption.

143. **Colostomy in Rectal Cancer.**—The following are Mathews' conclusions: 1. In the majority of the cases of cancer of the rectum, colostomy is not to be advised. 2. When the malignant growth is sufficiently low down in the rectum to be circumscribed, it should be excised. 3. Gradual dilatation or division of the strictured portion is much preferable to a colostomy. 4. Colostomy is fully justified in cases where total, or nearly total, occlusion has taken place at a height in the gut which precludes its division. 5. Opium is much to be preferred to a colostomy, as a means of quieting pain the result of cancer in the rectum.

144. **Treatment of Compound Fractures.**—The milder cases of compound fractures with simple solution of continuity of the skin without protrusion, Cumston would treat antiseptically, as a simple fracture, and if comminuted, the periosteal fragments may unite with the callus or afterward be eliminated or removed. In serious fractures with considerable tissue laceration, narcosis is necessary if it is intended to entirely disinfect the wound. In removing splints we are to be careful not to take away any part that may be useful in the union of the bone, and should refrain from

immediate resection of ends if they project. If there are extensive irregularities, counter-incisions and drainage may be employed. If the wound is regular and even, it may be sutured, but generally this is not the case. The treatment is the same with joints as with shafts of bones, but very careful sponging of the cavities should be done and drainage used. When the compound fracture has become infected, the nature of the inflammatory process will guide the treatment. If the inflammation is slight, open up the wound; if it is serious, the greatest care must be used. The method of using splints and plaster casts is mentioned. As regards the changing of dressings, there can be no fixed rule, but we should watch their condition carefully, also the facies of the patient, whether he is in pain, and the temperature. When the temperature reaches 39 C. it means that the dressing should be removed at once and the condition examined. The appearance of the patient will be a guide to an experienced surgeon. When the traumatism and bones have healed, it may be necessary to have an operation to restore the bone to its normal function, but in every case a conservative treatment should be adopted as far as possible. He does not favor too ready resort to amputation in serious compound fractures, but if it has to be done it will probably have to be higher up than first indications would seem to demand. He thinks that modern surgery diminishes the danger of infection, so that so many cases do not need surgical interference as was formerly thought necessary.

153. Fractures of Lower Extremities.—A series of cases of fractures are reported by Crook, who thinks that any injury about the hip in a person past 45 should receive careful attention, and that impacted fractures are especially apt to be unrecognized. It is never safe to give a positive opinion without examination under anesthesia or the X-ray. To differentiate between intra- and extra-capsular fractures is unnecessary. The simple Buck's extension apparatus gives good results. In fractures of the femoral shaft, it is wise to use anesthesia, and he calls especial attention to the combined extension and plaster apparatus, especially in double fracture. In compound fractures success or failure depends almost entirely on the first dressing, hence the necessity of rigid antisepsis. If the wound can not be sterilized otherwise, it is better to cut down on the fracture, irrigate and treat it as an open wound.

FOREIGN.

British Medical Journal, March 17.

Remarks on Holmgren Wool Test: Is it Adequate for Detection of Color Blindness? THOMAS H. BICKERTON.—While at first thoroughly believing in the Holmgren test for color blindness, Bickerton has of late become less a believer in its allsufficiency and he reports a case where the mate of a steamer suffering from a dangerous form of color blindness was able to pass these tests with ease. He thinks that the Holmgren test is by no means a certain discoverer of the lesser marked forms of color blindness. That there should be a phase of physical infirmity such as he has described rather strongly indicates that color and luminosity are in some way or other immediately associated, and the person who loses the ability to discriminate between color at a distance but gains it at close quarters certainly possesses a type of color disturbance which the Holmgren test will never discover. He quotes in support of his view, Dr. Hubert Seager, Captain Abney, and Drs. Mackay and McGillivray. He thinks to insure a certain discovery of all color defects, a quantitative test for color is required in addition to this now used.

Practical Applications of Largin in Diseases of the Eye. SYDNEY STEPHENSON.—Largin, a new silver preparation said by Merck to contain 11.1 per cent. of silver combined with protalbin, has been tested by Stevenson in several cases, and he concludes as follows as to its value: The application of largin, even in concentrated form, is painless, but, when prolonged beyond a few weeks, may stain the conjunctiva. It acts well in blepharo-conjunctivitis, and in some cases of dacryocystitis. It is an efficient substitute for silver nitrate in any of the conjunctival inflammations associated with the Koch-Weeks bacillus, such as infectious ophthalmia and acute or subacute trachoma. It acts admirably as a temporary remedy after any of the operations commonly practised for the relief of chronic trachoma. In gonorrheal ophthalmia, on the contrary, it is, in his experience, distinctly inferior both to protargol and to silver nitrate. In diplo-bacillary conjunctivitis too, it does not succeed as well as zinc sulphate. In short, largin seems likely to gain a permanent place among the somewhat restricted number of remedies employed in everyday eye work.

The Lancet, March 17.

Surgery of the Stomach. A. MAYO ROBSON.—In this second lecture on surgery of the stomach, the subject of perforation is first taken up. It may be acute or subacute. The acute form is not difficult to diagnose, as a rule, but the subacute type may give some trouble and there is a third variety where perforations occur and a small amount of fluid escapes, but is quickly limited by adhesions at some distance from the perforation. In the acute type where there is usually peritoneal catastrophe with previous history of gastric ulcers, there can be little doubt as to the case. In subacute cases the diagnosis rests mainly on physical signs. The exploring syringe may be necessary. Greig Smith called attention to an important symptom in this class of cases, a line of induration underlying and adherent to and moving with the parietes, indicating where omentum is adherent to the abdominal wall. As for treatment there is only one method, and that is surgery. Time is the principal element of success. In cases operated on early, within twelve hours, the mortality was 28.57 before 1896, but only 16.66 since that date. The details of the operation are of great importance. Everything should be done to save shock. The ulcer can generally be discovered readily, as in the majority of cases it is anterior, and on the posterior wall in only 8 per cent. The details of operation are given in full, but can not be repeated here for lack of space. The condition next taken up by the author is gastric fistula, the result of perforation, which he classifies as pathologic and traumatic. In these cases the fistula may be internal or external, and in the former the diagnosis can only be made, as a rule, by opening the abdomen. The external fistula may be serious for the health of the patient from the loss of gastric juice and stomach contents producing local irritation and disturbance of digestion. Internal fistula is liable to produce dyspepsia, loss of flesh and other disordered symptoms. The treatment of internal fistula would be much the same as in cases of chronic gastric ulcer, unless in cases of malignant disease where there would be little hope of doing good. Surface fistulas can be rapidly closed by plastic procedure, or may be cured by careful dressings and rest. Perigastritis and adhesions with their symptoms are also mentioned, and in their treatment surgical operation is often justifiable. To detach the adhesions in mild cases careful medical treatment may suffice. The hour-glass contraction is noticed, its chief cause being cicatricial contraction of ulcers; Robson is not satisfied that it is ever congenital. Surgery of these conditions is likely to be called for only in the later stages. Three courses are open: gastroplasty, gastro-gastrostomy and gastro-enterostomy. The first is the one he has always preferred, and he appends a list of cases with results. Gastro-gastrostomy seems a good term to apply to the operation for making an artificial opening between the two cavities of the stomach. The statistics show seven cases, with six recoveries. Gastro-enterostomy between the proximal cavity and the jejunum will leave the second cavity with its foul contents untouched, and he thinks that it may give relief but can never lead to cure. If there is not only constriction of the stomach but also of the pylorus, it would be worth considering. Dilatation of the stomach is generally classed as suitable for medical treatment, but if this does not succeed, surgery may be required. If there is a stricture of the pylorus, it must be dealt with in one of the several ways, pylorodiosis, pyloroplasty, gastro-enterostomy or pylorectomy. according to its nature. The author does not favor the first. The second is a more hopeful method and he gives a tabulated statement of his own and others' operations, and describes the modifications that have been suggested. Gastro-enterostomy may be employed if dilatation is dependent on an obstruction outside of the stomach which can not be removed; in the malignant diseases of the pylorus, pylorectomy is indicated. The lecture concludes with some remarks on congenital stenosis of the pylorus, which is held by Maier to be one of the most frequent causes of gastric dilatation. Its literature is not very full, though it may be more common than supposed.

Treatment of Rheumatism, with Special Reference to Prophylaxis and Its Cardiac Complications. William Ewart.—The infective theory of rheumatism is first discussed. The author is non-committal on this point. The prophylaxis is still somewhat obscure, and the most important indications are attention to climate, environment and general management of health, digestion, etc.. Ewart is inclined to think that the administration of salicylates may have some effect. Varieties of the disease are described, and here include chronic, acute, and subacute arthritis with the typical rheumatism under the same general head. Chronic fibrous rheumatism is not included. The most important feature of the whole group is the implication of the heart. The mode of action of the salicylates is not thoroughly understood: the author seems to favor the theory that the remedy corrects some fault in the blood or juices either by neutralizing an infecting toxin or by dealing with the products of unhealthy metabolism. Any purely nervous action and any special microbicidal action are less strongly indicated by the facts. There is no doubt that salicylates may do harm in some cases. The question is whether they can be withheld without damage. It is said that heart complications are apt to follow their use; this is one of the most important points to be considered, and further statistics are desirable on this point. It would seem from statistics of St. George's Hospital that mixed alkaline and salicylate treatment is less favorable to the occurrence of heart complications than that of salicylates alone. The author evidently believes in salicylate treatment, but he would in all cases admit alkalies, and would bar salicylates in the presence of albuminuria. Blisters may be applied from the first as a prophylactic measure, and as a curative one in all cardiac affections, especially in pericarditis. The use of iodids would appear to be indicated by their action on the lymphatic system: the potassium salt would seem suited to the acute form. Purgation is one of the first things to be attended to in the treatment of all cases, and he doubts whether rheumatic arthritis can exist with diarrhea. The keynote of the condition is general embarrassment of the metabolism, especially evidenced by the characteristic persistence of anorexia and failure of excretion. Local treatment and diet are more briefly discussed. In rheumatic fever the diet can not be too light, and he thinks a small quantity of salt added to the milk is important in all cases of exclusive milk diet to prevent fermentation. A temporary vegetarian diet is also indicated.

Journal of Laryngology, Rhinology and Otology (London), March.

Antiseptic Purification of Meatus and Adjacent Parts: Both for Operations and as Treatment in Chronic Middle-Ear Suppuration. Urban Pritchard.—The method here described, of antisepticizing the meatus, is, according to Pritchard, especially adapted to two classes of cases: 1, when the membrana tympani is intact and there is no suppuration, and 2, when it is perforated and suppuration already exists. In the first class, an hour or so before operating the meatus is well syringed out with 1 in 40 carbolic solution, and afterward mopped out with 1 in 20, until it is quite clean, so far as the eye can judge. The whole auricle is then well scrubbed with 1 in 20. A strip of double cyanid gauze—well wrung out in 1 in 20 or 1 in 40, in order to get rid of the irritating soluble cyanids—twisted so as to form a loose cord, is lightly packed into the meatus, and a pad of similar gauze is applied over the auricle and kept in place by means of a bandage. When the patient is under the anesthetic the bandage is removed, and all the gauze, and the operation is performed with all antiseptic precautions of ordinary surgery; when completed, the ear is dressed with strips of gauze in the meatus, and pads of the same in the concha and over the auricle, secured in position by a bandage. If during the operation there is anything which needs to be removed, this is done by syringing with 1 in 40. He emphasizes the importance of all syringes being thoroughly purified before they are used. In the second class the antisepsis must be most thorough; the ear should be syringed out with 1 in 40, or stronger, once or twice a day previous to operation, instead of only once as in the other cases. This should be *repeated after operation.* If the case is a very septic one, as in caries, the strip of gauze *should be dipped in 1 in 20* and tipped with powdered iodoform. The dressing needs to be changed more frequently; at first, at the end of twenty-four hours, and afterward about once in two days, according to circumstances. Whenever the gauze is tipped with pus the dressing should be renewed daily, the ear being syringed out each time with 1 in 40; if the pus is fetid, the iodoform should be used each time. In cases of chronic otorrhea, the same method should be applied, but the gauze should be in two pieces, one packed down to fill the deeper two-thirds of the meatus, and the second smaller piece used to fill *up the remainder. The auricle should* be wiped dry, and the dressing should be repeated from once a day to once in three or more days. It is well to continue the dressing after the discharge has ceased, leaving the gauze in for ten days or a fortnight. Even after that a piece of dry gauze lightly introduced into the outer part of the meatus, changed now and then, is advisable. He thinks that almost all cases that are suitable for the dry or absorbent treatment are likely to be readily healed by the use of this purification method.

Bulletin de l'Academie de Medecine (Paris), March 6.

Treatment of Obesity by Modifying the Diet. G. M. Debove.—The feature of this communication is the assurance that it is possible, by merely restricting the diet, to cure obesity. A convincing instance is detailed, in which a short man, obese by heredity and occupation, about 54 years of age, was reduced from a weight of 325 pounds to 206 in less than a year, with restoration of activity and vigor after having been helpless and bedridden from his obesity, gravel and gout. The principles followed in the diet were restriction to small amounts of articles of food unmodified by cooking, such as milk, raw eggs, raw meat, salads, fruits and plenty of cooked green vegetables. He was first limited to 2¼ liters of milk a day for a month, then to one liter for five months. Removal from the home table is indispensable in this method of treating obesity. The shrinking of fat under the skin, with the loss of over two pounds of flesh a week, caused the wall of the abdomen to hang down over the thighs like an apron.

Dysenteric Abscesses of the Liver. Kelsch and Nimier.—The peculiar character of these abscesses is emphasized in this article: their remissions, exacerbations, their tendency to recurrence and their chronic character. The anatomic evolution is entirely different from that of ordinary suppuration and classes them more with tumors, with tubercle-formation in particular. Tuberculous lesions in the liver closely resemble the exact characteristics of dysenteric hepatitis. The anatomic process in the latter is exactly the same as the dysenteric process in the intestines, allowing for the difference of structure between the two organs, and is essentially a necrosis in each, due to the same cause. In over 50 observations dysentery was found associated with the hepatitis in 85 per cent. In most cases observed in temperate climates, the hepatic symptoms accompanying the dysentery are so slight as to escape notice, but in tropical countries the hepatitis becomes a very important lesion. Either the hepatitis or the dysentery may appear first or may alternate, and the hepatitis may not manifest itself for a long interval after the dysentery. Cold seems to favor its development in the latter case, as after return to a colder climate.

Progres Medical (Paris), March 3 and 10.

Bacillus Coli in Suppurations of the Ear. Baup and Stanculeanu.—The bacillus coli has only been noted twice in suppurations of the ear, but this communication describes an observation of mastoiditis in which this bacillus was associated with an anaerobic one, the bacillus perfringens, and from the middle ear, infected the mastoid and thence the rest of the organism, producing pronounced stupor, diarrhea and abrupt drop in temperature, death four days after evacuation of the mastoiditis. Inoculation of the bacillus coli and of the bacillus perfringens into animals produced slight lesions separately, but combined they induced a fulminating septicemia every time.

Excitement and Mental Depression in Connection with Epileptic Attacks. M. de Fleury.—Several observations are reported in which, with the precision of a laboratory experiment, the epileptic irritation of the cortical gray matter by some anatomic lesion or convulsive toxin, gradually induces restlessness, the subjects become excited, optimistic, quarrelsome, insolent; then comes the epileptic seizure, after which all the nervous and mental symptoms indicate depression and exhaustion, extreme pessimism and timidity, gradually rising again to normal cheerfulness, then to excitement and the seizure, a constant pathologic chain.

Revue Gen. d'Ophthalmologie (Paris), February 28.

Treatment of Hemeralopia with Physiologic Horse Serum. J. Santos Fernandez.—In the course of eighteen years the writer has had occasion to observe 28 cases of hemeralopia, and the failure of all methods of treatment has been one of the most prominent features of this annoying affection. Last year he tried physiologic horse serum with such success that he now announces that we can positively assure a cure with from one to four injections of 20 c.c. each. He describes four observations in detail, omitting a number in which hysteria was a possible factor. The sight improved even with one injection and was completely restored with four.

Semaine Medicale (Paris), March 7.

Evolution of Tertiary Syphilis. A. Fournier.—The date of the first appearance of tertiary manifestations in 4400 private patients with syphilis, has been carefully recorded by Fournier. His figures are an interesting contribution to our knowledge of syphilis, and enable us to console syphilitic subjects in dread of tertiary invasion, by showing them that the danger of invasion diminishes remarkably with time, and to *such a degree that they have scarcely anything to fear—especially if they have been treated—at a period remote from the* original infection.

INVASION OF TERTIARY ACCIDENTS.

Year.	No. Cases.	Year.	No. Cases.	Year.	No. Cases.
1	188	19	66	37	5
2	453	20	78	38	3
3	471	21	36	39	3
4	388	22	35	40	5
5	357	23	30	41	4
6	326	24	29	42	2
7	274	25	26	43	2
8	211	26	20	44	1
9	195	27	14	45	1
10	233	28	21	46	2
11	142	29	15	47	0
12	134	30	17	48	0
13	114	31	11	49	0
14	113	32	6	50	0
15	117	33	7	51	0
16	95	34	4	52	1
17	70	35	2	54	1
18	75	36	5	55	1

The tertiary accidents first appeared during the first year in 188, or 4.2 per cent. (This does not include 90 cases of precocious malignant syphilis.) This proportion was doubled the second year and reached its height during the third, in which the proportion was 10.7 per cent. In nearly 11 per cent., therefore, the first tertiary manifestations appeared during the third year, the culminating, the terrible year, as he calls it. The fourth year inaugurates the decline, and by the ninth year the proportion is about half of what it was during the fourth. The second, third and fourth years alone furnish nearly a third of the total of tertiary invasion; the ten first years, 70 per cent. The following ten (10 to 20) furnish 22.3 per cent.; the following ten (20 to 30), 5 per cent., and the following years only .28 per cent. All but 400 of the total number were men.

Centralblatt f. Chirurgie (Leipsic), March 6.

Silver Filigree Netting to Close Abdominal Wounds and Prevent Recurrence of Hernia. O. Witzel.—Further experience has confirmed Witzel in the advantages of silver wire for a permanent suture. It can not only be thoroughly sterilized, but possesses a distinct antiseptic action of its own. He has been using it more and more extensively of late years, and now announces that a pad of silver filigree netting can be inserted and will heal in place, affording absolute protection against recurrence of a hernia, as he has repeatedly demonstrated. He suggests that it might supersede the plates of celluloid now used to close defects in the skull, with advantage, and tubes of this filigree netting might prove useful as a support for bone formation. He sutures the abdominal wall in three tiers, first with loops of the wire, the ends cut off and twisted together, then with a continuous suture with fine wire to unite the fasciæ and hold down the 1 cm.-long ends of the loop wires. The superficial suture is also made with fine silver wire.

Centralblatt f. Gynekologie (Leipsic), February 24.

Weight Treatment of Retroflexio Uteri Gravidi. A. Fundi.—The benefits of a bag of shot or colpeurynter filled with mercury, in chronic inflammatory pelvic affections and displacements, have long been proclaimed by this writer, and the treatment has been quite widely adopted. Funke now reports five cases in which the retroflexed gravid uterus was promptly restored to normal position by this means, in one case in less than half an hour. The efficacy, certainty, and harmlessness of this treatment are its chief advantages, as also the absence of narcosis.

Centralblatt f. Innere Medicin (Leipsic), February 10.

Iodophile Leucocytes in Blood Diseases. L. Hofbauer.—Leucocytes taking the iodin stain are only encountered in grave affections with unfavorable prognosis, such as anemia, gravis and perniciosa, and vanish as the prognosis becomes more favorable. The iodin reaction is positive in leukemia and negative in pseudoleukemia and anemia pseudoleukemia in infants. The iodin stain is valuable therefore, not only in the differentiation but also for the prognosis.

Deutsche Medicinische Wochenschrift (Leipsic), March 8 and 15.

Simultaneous Extra- and Intra-uterine Pregnancy. Hermes.—This is the first case in the author's knowledge, of simultaneous extra- and intra-uterine pregnancy in which the latter developed normally to term after laparotomy for the former, the seventh week on a healthy multipara.

Removal of Bone Aspirated Into Right Lung a Year Before. G. Killian.—The Journal has frequently referred to Killian's direct bronchoscopy, and a new observation is reported in which it rendered possible the removal of a piece of bone 15 mm. long, 11 wide and 4 thick, extracted by forceps inserted 3 cm. down in the main right bronchus. This is the first case on record in which a foreign body was removed by the natural route after a sojourn of a year in the lung.

Double Diaphanoscope for Seeing Through the Frontal Sinuses. Gerber.—By making the Vohsen lamp double, and improving on it slightly, it is possible to see through both frontal sinuses at the same time, and thus have a standard of comparison between normal and pathologic conditions. A number of observations are described in detail, showing the important information thus derived, confirmed by operation. Frequently nothing else suggested the involvement of the sinus. The area of transparency is marked on the skin.

Dietetic Treatment of Dilatation of the Stomach. Albu.—Instead of the dry diet usually imposed, Albu considers fluid diet indicated in case of dilatation of the stomach, as the anatomic affection should not be taken into account as much as the disturbance in the physiologic function. He establishes it as a general principle that "the food should be food. and should be fluid." The ingestion of non-nutritious fluids, watery soups, etc., must be strictly forbidden. Milk should be given freely, rendered appetizing in every possible way. Meat should be finely chopped or given in jellies. Toast is not necessary, all bread. etc., is best dipped in milk. Beef, pork and all fats should be avoided, except a small amount of pure butter, not over 30 gm. a day. The meals should be as limited as possible and follow each other. just avoiding interference with the last. The diet outlined is a cup of milk and two rolls at 8; at 9 a cup of cream; at 10, two soft eggs; at 11, a cup of cocoa with milk; at 12, a saucer of cereal food; at 1, one-quarter pound of sweetbreads and three tablespoons of sp [illegible] 3. a [illegible] ilk;

at 4, a cup of chocolate and a zwieback; at 5, a cup of cream; at 6, a saucer of oatmeal soup with egg and plasmon, or four tablespoons of minced meat; at 7, soup with egg and a roll; at 8, a cup of milk and another at 9. After lavage of the stomach morning and evening, he administers, through the sound, a mixture of plasmon, condensed milk, etc., representing a food value of 400 calories. After each meal the stomach is massaged which strengthens the musculature and stimulates peristaltic movements. If there is great debility the patients stay in bed. Albu's experience includes fifty observations. In many cases of extreme stenosis the subjects increased in weight, and operation could be postponed indefinitely.

Deutsche Zeitschrift f. Chirurgie (Leipsic), January.

Regeneration of Male Urethra. Ingiani.—A series of experiments on dogs has shown that it is possible to obtain regeneration of a section of the urethra. It occurs in the membranous portion and the cavernous tissue, not in the muscularis. The endothelium in the cavernous spaces, exposed by removal of the section, first begins to proliferate. The new-formed cavernous layer is then gradually covered with a single layer of pavement epithelium propagated from the epithelium of the stump. The less post-operative inflammation, the more rapidly regeneration proceeds. Other experiments proved that it is possible to create an artificial urethra by implanting a small stump of an urethra in a passage made artificially under the skin. The piece of urethral tissue will develop and spread until it lines the entire passage, and thus artificially produce a new urethra resembling the normal in structure and function. In this case also it is merely the mucous membrane and cavernous tissue which become regenerated. The muscularis does not take part in the process.

Removal of Osteoma of Upper Wall of Orbit Without Injury to Eyeball. Schuchardt.—The osteoma was the size of a walnut and was removed by Krönlein's method of temporary resection of the outer bone wall of the orbit. The eyeball was not interfered with, and the double vision caused by the tumor vanished with its removal.

Wiener Klinische Rundschau, February 25 and March 4.

Malignant Edema. A. Brabec.—Study of a typical case, at Maydl's clinic, of malignant edema of the upper extremity, led to the following conclusions: the characteristic features are edema without gas formation, and without suppuration, but with a pure hemorrhagic, edematous fluid. The progress of the process is peculiar; it does not spread by way of the blood or lymph routes, but actively in the free, subcutaneous interstitial connective tissue, and hence malignant edema remains for a long time a purely local affection. It only leads to a fatal termination by the incessant spread of the edema, involving too large areas of the body. It is a local intoxication, and the fever, the absence of tumefaction of the spleen and of albuminuria, confirm this assumption. The clinical picture can change by mixed infection or invasion of some vital portion. Amputation or exarticulation is indicated if diagnosed early enough, and if not, efforts to destroy the anaerobic bacillus, which closely resembles the anthrax bacillus.

Wiener Klinische Wochenschrift, March 15.

So-Called Pericarditic Pseudo-cirrhosis of the Liver. V. Eisenmenger.—Fr. Pick attempted to establish a new morbid syndrome under this title in 1896, characterized by a symptom-complex resembling that of cirrhosis of the liver while the pathologic-anatomic foundation was a chronic "schwielige" or adhesive pericarditis. This conception has been generally accepted, but his facts do not stand the searching inquiry described in this communication. It is true that excessive ascites without edema of the legs coincides comparatively frequently with adhesive or indurated pericarditis, and, if the pericarditis is latent, the symptom-complex has a certain analogy with that of cirrhosis of the liver. But this syndrome is not the result of proliferation of connective tissue in the liver, caused by disturbances in the hepatic circulation, as Pick maintains, with consequent congestion in the portal circulation and resulting edema. It is due to various causes, differing with individual cases. Prominent among these are the dragging, compression and flaws in the vena inferior due to coincident effusion or pericardio-mediastinal "Schwielen," or coexisting peritonitis of the portal liver, and finally, to the circumstance that the symptom-complex occurs chiefly in young persons in whom the normal structure of the capillaries and smaller vessels of the major circulation, yields more readily to edematous transudation. Consequently Pick's conception is shown to be unfounded.

Societies.

COMING MEETINGS.

American Medical Association, Atlantic City, N. J., June 5-8.

Tennessee State Medical Society, Knoxville, April 10.

Florida State Medical Society, Orlando, April 11.

Mississippi State Medical Association, Meridian, April 11-13.

Medical Society of California, San Francisco, April 14-16.

Medical Association of Alabama, Montgomery, April 17.

South Carolina Medical Association, Charleston, April 18.

Louisiana State Medical Association, New Orleans, April 19-21.

Medical Association of Georgia, Atlanta, April 18.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 24.

Texas Medical Association, Waco, April 24.

American Proctologic Society, Washington, D. C., May 2 and 3.

Illinois State Medical Society, Springfield, Ill., May 15-17.

Association of Military Surgeons of the United States, New York City, May 31 to June 2.

American Medico-Psychological Association.—The next sessions of this Association, to be held at Richmond, Va., have been postponed until May 22-25. The program includes a large number of subjects to be treated in medico-psychologic papers.

Association of American Physicians.—This Association will hold its fifteenth annual meeting in Washington, D. C., May 1-3. Members who expect to contribute papers should send their titles to the president, Dr. E. G. Janeway, 36 West Fortieth Street, New York City.

Therapeutic Society.—At a recent meeting of the Therapeutic Society of the District of Columbia, the following were elected to office: president, H. H. Barker; vice-presidents, B. G. Poole and L. Kolipinski; secretaries, D. O. Leech and N. P. Barnes; treasurer, J. S. McLean; librarian and curator, H. T. A. Lemon.

American Surgical Association.—The next meeting of this Association will be in Washington, D. C., May 1-3. The program includes a number of fifteen-minute papers on the surgery of the stomach, by authorities on that subject, with papers on miscellaneous surgical subjects by leading American surgeons.

Medical Association of Missouri.—This Association will meet in Mexico, Mo., in forty-third annual session, May 15-17. A symposium on gall-stones will be a feature of the meeting, while, besides numerous other papers, arrangements have been made for an exhibit of pathologic specimens. Those who have appropriate ones available are requested to notify Dr. A. R. Kieffer, 4268 W. Belle Place, St. Louis, Chairman.

Medical and Chirurgical Faculty of Maryland.—The annual address before the faculty will be delivered on April 25, by Dr. G. E. de Schweinitz, of Philadelphia. It is proposed to continue the practice inaugurated during the centennial meeting last year, of devoting the mornings to clinics at the various hospitals while the afternoons and evenings will be devoted to the scientific and business matters and to social functions.

Louisiana State Medical Society.—This Society's next annual meeting will be April 19-21, in New Orleans. In the section on general medicine tuberculosis will receive consideration, and in that on surgery, local and regional anesthesia. The care and treatment of the insane will be discussed in the section on mental diseases; surgery of salpingitis and value of electricity, in the section on obstetrics and gynecology, while the members of others will have special subjects peculiar to the several sections

International Congress of Public and Private Benevolent Institutions.—The first congress of "public assistance and private benevolence" was held in 1889, the second in 1896. The results have been most important in the line of organized charities and hospital improvement, and have influenced legislation in many instances. Among the questions to be discussed at the coming congress in Paris, July 30 to August 5, are the advantages and best methods of assistance at home, and the assistance of the tuberculous poor. Fee $5. Secretary's address: rue Cambacérès 7, Paris.

New York County Medical Association.—At the stated meeting of this Association, which will be held on Monday evening, April 16, Dr. J. H. Woodward will read a paper entitled "The Prevention of Intracranial and Intravenous Complications in Suppurative Diseases of the Ears," and Prof. Howard A. Kelly of the Johns Hopkins University, Baltimore, Md., will read one on "What are the Ultimate Results in Treating Cancer of the Uterus, and What is the Best Plan of Treatment?" The following named are expected to take part in the discussion: Jos. E. Janvrin, Herman J. Boldt, H. M. Vineberg, Ralph Waldo, Geo. T. Harrison, Clement Cleveland, E. E. Tull, Henry C. Coe, Jno. Byrne of Brooklyn, and P. H. Ingalls, of Hartford, Conn.

Cincinnati Academy of Medicine.—The regular meeting of the Academy, March 19, was set apart as a memorial meeting in honor of the late Dr. John A. Murphy. A committee, which had been appointed for the purpose, consisting of Drs. W. E. Kirby, Louis Schwab, John C. Oliver, W. E. Schenck, and J. C. Mackenzie, submitted suitable resolutions, which were adopted. Addresses were made by Drs. Wm. H. Taylor, C. D. Palmer, Robert Stewart, J. C. Oliver, T. A. Reamy, Francis Dowling, Joseph Eichberg, C. E. Caldwell, and Dan Millikin of Hamilton, Ohio. A letter from Dr. N. P. Dandridge was read. In addition to the tributes of praise concerning his personal character, mention was made of his great efforts in behalf of effective medical legislation; that with all his honors he had never held a position in public service that carried with it any pecuniary compensation. Dr. Murphy was a charter member, the last, of the Cincinnati Academy of Medicine, and was one of its most active workers and supporters almost up to the time of his death.

Chicago Medical and Chicago Neurological Societies.

Joint Meeting, March 7, 1900.

GENERAL SYMPTOMS OF BRAIN TUMORS AND THE DIFFERENTIAL DIAGNOSIS.

This was the topic of the evening.

Dr. Archibald Church, before taking up the principal symptoms, directed attention to a number of subsidiary ones which are commonly of late occurrence, and which help in making a diagnosis of intracranial growths.

With reference to headache, Knapp found that this symptom existed in 401 out of 614 cases. Dr. Church has collected 23 cases that have fallen under his own observation, of tumor of the brain, verified by operation or by post-mortem examination, or both, and he finds that 20 out of these 23 presented headache in a marked degree. In some cases where the tumor is angiomatous, or more particularly when an aneurysm, the headache is throbbing, this being synchronous with the heart's action. In certain cases, where the headache is circumscribed and characterized by overlying tenderness on pressure, it serves as a localizing feature.

Choked disc is a symptom which is not generally of early appearance in brain tumor, consequently in the early stages of the growth it does not furnish the almost positive evidence which is provided by it later in the diagnosis of tumor of the brain. The presence of choked disc, either on one side or the other, or on both sides, is presumptive evidence of the presence of brain tumor, and when coupled with two or three major symptoms may serve to confirm the diagnosis of tumor within the skull. He said that this symptom is found at one time or another in over 80 per cent. of the cases. In the 23 that came under his own observation it was observed 14 times. He mentioned a case in which an infiltrating sarcomatous growth invaded the entire left cerebral hemisphere, but in which choked disc did not appear until two or three days before death. In another instance the choking was early, although the tumor was slow growing and very small. Marcus Gunn reports 24 cases in which choked disc and tumor were unilateral. In 18 out of 24 the choked disc and tumor were on the same side of the head.

The more the speaker sees of cases of brain tumor, the more he is convinced that there is a defective mental state, although this symptom may not develop until rather late. The patient is apathetic, and indifferent to surroundings and conditions. He manifests mental sluggishness. In certain cases the stupor is pronounced. The patient may become lethargic, or comatose. A defective mental condition was observed 17 times in the 23 cases tabulated.

Dr. Church referred to epileptic and epileptoid convulsions associated with brain tumor. He treated one man for epilepsy for three years before a diagnosis of brain tumor was made. He mentioned the case of a patient who had been treated for nineteen years before a diagnosis of cerebral tumor was made; another for twenty-four years. Brain tumor may exist without manifesting any symptoms during the life of the patient. In some cases the convulsions are preceded by intense headache; in others by vomiting. Hysteria may present manifestations that are difficult to differentiate from the general convulsions of brain tumor, but a thorough study of the patient will enable the physician to differentiate between the two. Hysteria, however, does not exclude brain tumor.

As to vomiting, Jacoby reports it to have been present in 172 out of 568 cases. This symptom was present in 13 out of the speaker's 23 cases. In only one instance was it typically projectile.

Vertigo occurred in 31 per cent. of the cases collected by Mills and Lloyd. This symptom was marked in 17 out of the 23 cases observed by the speaker.

He makes it a routine practice to auscultate the head of every patient who manifests symptoms indicative of a brain tumor, believing that something may be gained by it. Auscultation should be practiced in conjunction with percussion. By placing the stethoscope over the patient's brow one is enabled to detect changes in the percussion note which may in some instances be of undoubted value.

In reference to erosions of the skull, he recalled seeing a case with Drs. Fütterer and Henrotin in which, after the death of the patient a tumor, located in the prefrontal region had eroded the temporal bone to such an extent that the end of one's finger might be pushed through the skull.

Another means of investigating the condition of the skull is direct concussion. Macewen and Dana claim to have noticed a distinct change in the percussion note over the seat of a brain tumor and cerebral abscess. A distinct dulness is elicited in these cases.

He regards the cracked-pot sound as a symptom of considerable value in the diagnosis of hydrocephalus, and referred to the investigations of Paoli and Mori along this line.

Speaking of the X-ray in the detection of brain tumors, he said he had had the good fortune in one case to obtain a good skiagraph of a very vascular and hemorrhagic glioma of the cerebellum. The X-ray likewise revealed a tumor in the motor region in a case in the practice of Dr. Carl Beck, as was subsequently verified by operation. Cysts have also been detected in two cases.

Referring to the differential diagnosis, the patient ordinarily first complains of headache. Headache is a generalized symptom. Some headaches confounded with those of brain tumor are migrainous. A history of migraine coupled with the clinical features of the case should be sufficient in most instances to make the diagnosis. A migrainous patient, however, may have brain tumor. Patients with neurasthenia, who so commonly suffer from periodic headache, may have brain tumor; in 6 of the cases of brain tumor collected by him a diagnosis of hysteria had been made, and in 3 i[illegible] marked form.

One of the conditions which closely simulates brain tumor is anemia, especially chlorotic anemia. Not only may anemia produce headache, vomiting and vertigo, but choked disc, which, to the man who is not highly skilled in the use of the ophthalmoscope, is indistinguishable from the choked disc which accompanies brain tumor. He said a case was reported by Dr. H. M. Bannister of this city, in which the diagnosis lay between brain tumor and anemia for some time until, under proper medication, all symptoms of cerebral tumor disappeared. He remembers a woman who went the rounds of three hospitals with a diagnosis of brain tumor. She presented evidences of brain tumor, among them choked disc, and yet she got well on Blaud's pills.

Basilar meningitis, hydrocephalus, hemorrhage and acute softening, polioencephalitis, nephritis, many of the toxic conditions arising from extraneous or other causes may closely simulate brain tumor. In nephritis, there may be disturbance of the optic nerve; there may be a comatose condition, etc. Albuminuria may be present, consequently it is only by making an absolute diagnosis of nephritis that a safe course can be adopted in the differentiation of these two conditions. Patients with nephritis, however, may have brain tumors. One of the most puzzling cases he had ever seen from a differential standpoint was one in which the major symptoms of paretic dementia of the insane were present. The patient had expansive ideas of a delusional character. He had inco-ordination; the peculiar staggering gait; tremulous tongue; attacks of vomiting; such convulsions as are found in general paralysis. In addition to these symptoms the man had choked disc. He finally died of brain tumor, and no evidences of paretic dementia were found post-mortem.

CEREBRAL LOCALIZATION.

Dr. **Sydney Kuh** read a paper on this topic, in which he gave a brief review of what is to-day known about cerebral localization. The differential diagnosis between so-called idiopathic and Jacksonian epilepsy and the general characteristics of cerebral palsies were discussed in detail. The uncertainty of brain localization was emphasized particularly, and this point illustrated by a number of interesting cases, partly taken from medical literature and in part from the author's own experience. Thus two cases were mentioned in which spasms occurred on the same side of the body on which the cerebral lesion was found at the post-mortem; another one in which an angiosarcoma had destroyed practically all of the vermis superior cerebelli without causing any topical symptoms; one in which a psammoma of the hypophysis, in place of causing acromegaly, was associated with stunted growth, and finally a case of cerebellar abscess with typical Jacksonian epilepsy on the same side on which the abscess was found and no cerebellar symptoms. The author also gave a brief history of one of those very rare cases in which laryngeal spasms were caused by cortical disease; his patient presented, besides the laryngeal spasms, such in the muscles of the face and a purely motor aphasia, to which later on in the course of the disease a right hemiplegia was added; examination of the fundus showed atrophy of both optic nerves.

EYE AND EAR SYMPTOMS IN BRAIN TUMOR.

Dr. **William H. Wilder** read a paper on "Value of Eye and Ear Symptoms in Brain Tumor." In the list of general symptoms we should put optic neuritis second to headache, and yet it is surprising to note how often in the reports of such cases no mention is made of the condition of the optic nerve. Optic neuritis should be looked for at once in all cases of suspected focal disease of the brain, for it may be present although normal central vision exists. As to the frequency of this sign, the writer found mention of it in 104 cases out of 140 of brain tumor recorded in the literature for four consecutive years, this being about 75 per cent. It is safe to say that this condition occurs in 80 per cent. of all cases of brain tumor. The records show that it is of somewhat more frequent occurrence in cerebellar tumors, being noted in 90 per cent. of such cases.

Although so valuable as a general sign, it possesses very little worth as a localizing sign, nor does it furnish any definite information as to the character or size of the growth. It may be present with small tumors, and may be absent with large ones. Inasmuch as the optic neuritis may in some cases be of a low grade, it is important for the observer to avoid mistaking for organic change the blurring of the outlines of the disc in high degrees of astigmatism.

Certain general conditions causing optic neuritis, such as meningitis, anemia, chronic kidney disease and plumbism should be carefully excluded before placing too much reliance on this sign. Emphasis should be placed on the importance of repeated examinations of the fundus of the eye during the course of every case of suspected brain tumor.

Another important general eye symptom of brain tumor, although less frequent than the former, is temporary periodic blindness, coming on in the early stages of the growth. The attacks of blindness are sudden, and last from a few seconds to half a minute or longer. In the intervals the vision is as good as before, but frequent attacks may lead to permanent impairment of sight. A marked case of this occurred recently in the experience of the author.

Hemianopsia may be an important localizing eye symptom of brain tumor. It may be absolute or relative, and coexisting with certain other symptoms such as mind blindness, amnesic color blindness, word blindness, etc., would point strongly to *lesion of the occipital lobe. It must be differentiated* from the hemianopsia occurring with lesions of the optic tracts. Wernicke's pupil sign may aid in this.

The ear symptoms in brain tumor relate principally to the labyrinth and the auditory nerve, and consist of subjective sounds and varying degrees of deafness. Careful exclusion of middle ear disease is necessary before formulating any conclusion as to the relation of ear symptoms to a possible intracranial growth.

RECENT WORK IN SURGERY OF BRAIN TUMORS.

Dr. **Weller Van Hook** limited his paper to the consideration of recent additions to the technique of opening the cranium for diagnosticating and removing tumors. He described the Wagner method of temporary resection of parts of the cranium and the Doyen method of so-called temporary craniectomy. The former has for its object the raising of a flap of skin, muscle, pericranium and bone *from the side of* the skull, with a nutrient pedicle of the soft parts. The Doyen method consists simply in raising a very large flap of the same kind. After exploration or the removal of a tumor the flap is turned back into place and sutured. The Cryer, Doyen and Van Arsdale saws, driven by electric engines, were mentioned.

Two modern devices for opening the skull were considered, at once commendable and novel. The Gigli saw, consisting of a simple wire of steel twisted while hot, to produce a roughened surface, is used to open the skull by making cuts about the plate of bone to be lifted. The wire saw is introduced through drill-holes. Dr. Van Hook raised the objection to the saw that it acts inside the skull in an approximately straight line in the direction of a chord of an arc in which the skull is to be opened. The dura may be wounded unless great care is used. On the whole the writer most favored the DeVilbiss-Dahlgren cutting-forceps for making channels in the cranium. This instrument has the advantage of availability as to price, ease of transportation and sterilization, and making a cut through the bone narrow enough to facilitate rapid healing without injuring the brain or its coverings.

Dr. **Sanger Brown** believes that there is quite a large number of cases in which no one is able to make an exact diagnosis of brain tumor. As illustrating the difficulty which attends the diagnosis, he was called out of town last summer to see a man, 40 years of age, who had symptoms of nervous prostration for a few weeks. One night the patient had numbness of all four extremities and was considerably frightened by it. A very careful and thorough examination disclosed nothing in particular. The man had had no headache, and there were ample reasons for supposing he was suffering from profound neurasthenia. Dr. Brown advised him to take a rest for several months. This he did, and went to California, where, in the course of two months, he developed the typical symptoms of brain tumor and died of the disease.

Dr. **A. J. Ochsner** said he had seen a number of cases of tumor of the brain, and had operated on three, the patients dying soon after. The surgical treatment of brain tumor is not very promising in his experience. Brain surgery in cases of traumatism offers more hope.

Dr. Oscar A. King said that in the diagnosis of brain tumor the older text-book writers insisted on the existence of optic neuritis before a positive diagnosis of intracranial growth could be made. In his opinion the statistics with reference to the presence of optic neuritis are very wide of the mark. He believes that a great many patients die from brain tumor without a diagnosis. In cases in which optic neuritis frequently exists, unquestionably the tumor is situated in the posterior fossa. To give a rough estimate, in about 90 per cent. of the cases in which the tumor is located in the posterior fossa optic neuritis is present. A tumor measuring 2½ by 2 inches, occupying the foot center on the left side of the brain, was removed in a case of his by Dr. Steele. The patient was living five years after the removal of the tumor, and seemed to be in better condition than before the operation. In this case there was no headache, and no optic neuritis. The symptoms that did exist were Jacksonian epilepsy, which began in the right foot; there was paresis of the muscles of the right foot, and taking these symptoms together with the history of the case a diagnosis of brain tumor was made, the tumor located in the foot center, and successfully removed.

Dr. Frank Billings narrated a case illustrating what physicians and surgeons do not know about brain tumors. A few years ago he had a patient, a young man, who suffered from Jacksonian epilepsy. He felt that the patient had a tumor of the cortex in the arm area. Dr. Church saw the man in consultation with him, agreed with the probable diagnosis, and the patient consented to an operation, which Dr. L. L. McArthur did at St. Luke's Hospital, removing a large button of bone from that portion of the skull covering the arm area of that side. After making quite a large trephine opening in the skull, intracranial pressure was not noticeably increased. The dura was incised and turned back. Palpation did not reveal anything. The use of the faradic current in the hands of Dr. Church revealed contractions in the muscles under the control of this cortical area. A small portion of the cerebral substance was removed and afterward examined. No tumor was found near the surface by acupuncture. The man recovered from the operation; the button of bone was returned; there was primary healing of the skull wound, and for about three months he had no convulsions. The convulsions had appeared in this case at irregular intervals, as often as once a month. His convulsions returned; he visited New York and consulted two prominent neurologists, who made a diagnosis of idiopathic epilepsy and condemned the operation which had been done. Two months later the man returned to Chicago, and about 1½ years after the operation he went suddenly into status epilepticus and died after about twenty-four hours. A post-mortem was made, and a small tumor of the size of an ordinary almond-nut was found directly under the convolution where the operation was made. The post-mortem examination was made by Dr. Frank. This case exemplifies the fact that in operations on the brain it is sometimes necessary to proceed further than to make a mere opening in the skull with or without intracranial pressure; the surgeon should go through the dura. The speaker could not help but repeat the dictum of Stokes that there is not a single nervous symptom which occurs in organic disease of the cerebrospinal apparatus that may not occur without any organic change. He does not refer, of course, to optic atrophy.

Dr. Denslow Lewis asked Dr. Wilder to explain, if possible, the difference in the appearance of optic neuritis of brain tumors and the neuroretinitis which is occasionally observed in eclampsia and chronic Bright's disease.

Dr. W. H. Wilder, in reply, said it was sometimes difficult to make such a differentiation. The physician should exclude certain conditions. He believes there are certain cases of optic neuritis which would be difficult to differentiate from the neuro-retinitis of eclampsia or of chronic Bright's disease. In the typical cases of retinitis of Bright's disease there is a peculiar arrangement of the patches of degeneration in the layers of the retina, etc. This is seen especially in cases where there is a stellate arrangement of the plaques around the macula lutea, etc.

Dr. J. Holinger could not coincide with Dr. Wilder in the statement that the ear does not give just as valuable information relative to the existence of brain tumors as does the eye. Competent otologists are now able to differentiate middle-ear disease from disease of the labyrinth, etc.

In referring to the differentiation between brain abscess and brain tumor, he said that Macewen stated at a meeting of the otologic society, held in London, that an accurate differential diagnosis between brain tumor and cerebral abscess is impossible.

Dr. Charles H. Beard exhibited some colored drawings from two patients known to have had optic neuritis in connection with brain tumor. One drawing showed optic neuritis in one, 16 years of age, who died of sarcoma of the cerebellum; another, optic neuritis which existed in a woman, 24 years of age, who died of glioma of the cerebrum. There was double optic neuritis in both cases. He showed a third colored drawing of a patient still living, and who is supposed to have intracranial gumma. He said it is quite well agreed by all authorities that optic neuritis is a very important diagnostic sign of brain tumor. In a great many text-books stress is laid on choked disc as being a prominent symptom of brain tumor. Choked disc, pure and simple, that is, an edema of the optic nerve-head, is a very rare condition. He does not think he has ever seen typical choked disc more than two or three times in a large number of cases, and probably two of these were in conjunction with other things than that of brain tumor.

Dr. W. H. Wilder said he did not wish to be understood as having conveyed the impression, as intimated by Dr. Holinger, that we could not differentiate between internal-ear disease and pressure on the auditory nerve, because this can be done with a reasonable degree of certainty. The differentiation could likewise be made in some cases between labyrinthine disease and pressure on the auditory nerve.

PRIMARY LATERAL SCLEROSIS.

Dr. Harold N. Moyer reported the case of a child, 3½ years of age, who was brought to him from the country for a defect in locomotion. There was a tendency, when walking, for the child to place one foot in front of the other, the gait being essentially spastic in character. The child would tip upward on the toes, and it was only when its attention was directed to this that it was able to bring the heels down, and then always with an effort. The peculiar gait was not associated with loss of power in the legs. The muscles were firm, but not more so than normally, as would be the case in pseudohypertrophic muscular paralysis. The bellies of the muscles were well-rounded, but not unduly large. Knee-jerks were exaggerated. There was no ankle-clonus, except that one or two slight jerks could be obtained when the tendo Achillis was put on a stretch. The upper extremities were normal. There were no eye symptoms, and no sensory disturbance anywhere. As near as could be determined in so young a child, temperature, tactile and pain senses were normal. According to the history, the condition was congenital. The child developed normally during infancy, without the manifestation of any defect, and always appeared well-nourished, there being no rickets, convulsions, nor other disturbances of the general health. The parents, however, noted that the child was late in walking, and crept until it was 18 months of age. When it began to walk this disturbance in locomotion was noticed and began to increase as the child grew older, according to the statement of the parents. This Dr. Moyer is inclined to doubt, and he believes that the disease is not progressive. He believes the disease must be in the crossed pyramidal tract, to give the peculiar symptoms present. So far as he could learn, there was no inco-ordination. He knows of no other disease located in the spinal cord that gives the spasticity of gait, the increased reflexes, without atrophy, without alteration of sensation, with no other disturbance than that named, excepting primary disease of the crossed pyramidal tract. Those who are familiar with the literature understand that this is a very doubtful proposition. Many competent neurologists maintain that primary lateral sclerosis never occurs. They predicate their opinions largely on the fact that if these patients are watched long enough, they eventually develop sensory disturbance, inco-ordination, and other symptoms [illegible] with [illegible] lesions of the spinal cord throughout [illegible]

A strikingly interesting feature [illegible] case appeared to be congenital; apparently a developmental defect. Perhaps a more strikingly interesting feature in connection with the history of the case is that the mother has the same disease. In her case the history shows that she was normal until about 2 years of age. Up to this time she walked as well as do children of that age, without any apparent disturbance in gait. She then developed some obscure disorder, the exact nature of which is not known, but it is said to have been accompanied by convulsions. She recovered from this disorder, shortly after which there was a tendency to tilt on her feet. He has not seen the woman, but the physician who examined her says that she presents the same changes noted in the child; that she is strong in her legs, but that there is more or less difficulty in advancing them in taking ordinary strides. Her trouble has not advanced since infancy, and she is now 38 years of age.

Dr. Moyer believes that these two cases establish a family type of disease. In the mother the affection seems to have been acquired. Notwithstanding that many writers contend that this peculiar form of lateral sclerosis does not exist, there is one excellent clinician who holds that it does, namely Hirt. This author reports several cases similar to the one described by Dr. Moyer, and says that the disease may be hereditary, but he does not report any cases in confirmation of such a conclusion. Dr. Moyer reports this case as a rare type of disease, and one which is interesting from the standpoint of heredity, illustrating what was apparently an acquired defect in the child appearing as a congenital condition in it.

Philadelphia Pathological Society.

March 8, 1900.

TUMORS OF VERMIFORM APPENDIX.

Dr. A. O. J. Kelly read a paper on this subject. He reported two cases of fibromyoma of the appendix, one from a patient also the subject of fibromyoma of the uterus. The appendix presented two nodules, one of which was the seat of marked calcareous infiltration. He also reported three cases of carcinoma and one of endothelioma of the appendix. Two of the carcinoma cases and the endothelioma were primary in the appendix, as was probably also the other carcinoma. The cases were of especial interest because, in all, the clinical manifestations were those of appendicitis, for the relief of which operation was undertaken. In three of the cases the tumors were of microscopic size and were not detected by the ordinary macroscopic examination. The youth of the two patients, aged respectively 24 and 19 years, was also of interest in this connection. Reference was also made to the relative frequency of tumors of the vermiform appendix and to the previously reported cases.

Dr. David Riesman spoke of Dr. Kelly's work in this line, and said that the finding of these tumors of this region might imply that the condition is one of more frequency than has been supposed.

Dr. G. G. Davis detailed a case of appendicitis in which a recurrence came on ten days after a primary attack. At a subsequent operation a segment of tapeworm was found in the appendix. Later two were expelled per rectum.

Dr. H. D. Beyea spoke of a case of appendicitis operated on by Dr. Penrose, *in which oxyures* were found.

CYST OF THE INGUINAL REGION.

Drs. DeForrest Willard and William G. Spiller presented *a specimen* of cyst of the inguinal region, the diagnosis being somewhat uncertain. The patient was a man, 55 years of age, who had complained of vague nervous symptoms. Later a slight swelling was observed in the left inguinal region, not well defined at first, and only after waiting for some time could its correct outline be felt. At operation a cyst was found attached to the deep tissues about the tumor. A psoas abscess was suspected, but *on incising* it a large number of small white particles were *discharged. These looked* like fat, more or less flattened, some egg-shaped, and tough, some one inch in length and *one-half* in width. The cyst, solid, was filled with these particles, which, after drying, shriveled and became quite hard. In a solution of osmic acid they did not change color to any extent. With Van Giesson's stain they became an orange-yellow color. In some respects the particles seemed to be made up of a colloid material, and were perhaps remains of a dermoid cyst.

Dr. Joseph Sailer *thought possibly the particles* were *loose* bodies spoken of as being cast off from serous membranes. Similar bodies were found in the pleura.

Dr. J. D. Steele spoke of a case of typhoid fever in which similar bodies had been expelled per rectum.

Dr. David Riesman was of the opinion that the products might be remains of a bursa.

Dr. Simon Flexner, after examining the specimens, thought amylaceous bodies could be found, these possibly having been twisted off from the connective tissue and forming the products shown.

CEREBROSPINAL SYPHILIS.

Drs. W. R. Blackwood and Wm. G. Spiller reported a case of this *affection* in a man 60 years of age, who presented a clear specific history. Two years previously a large tumor of the sternum developed, later an abscess in the region of the third and fourth cervical vertebræ, which was incised, but never completely healed. Some time afterward ptosis on the right side occurred, and still later the speech became incoherent and death ensued. At the autopsy the membranes of the brain and cord were thickened. In the interpeduncular space this thickening was especially marked, the process seeming to affect the adventitia mostly. Thickening was also noted about the region of the optic chiasm. The ptosis might be explained from the proliferation of cells in the interpeduncular area. In the occipital lobe on the right side a small cavity was found, and a similar one in the lenticular nucleus.

Dr. Simon Flexner spoke of certain instances in which "painful fat" areas had been found in cases of syphilis.

Wayne County Medical Society.

Detroit, Mich., March 14, 1900.

OBSERVATIONS ON THE TREATMENT OF EPILEPSY.

Dr. David Inglis, in a paper on this subject, referred to one he read before the Michigan State Medical Society in 1893, in which he took the position that the routine use of the bromids was not "desirable treatment, as they produce damaging effects. He advocated, in their place, use of coal-tar preparations, and cited his experience of seven years with the latter, giving cases to illustrate their efficacy. In no case reported in the paper of 1893 has there been a relapse, excepting one, that patient dying in the meantime. *In using the coal-tar antipyretics one should keep a close watch on the action* of the drug on the heart, and only when depressing manifestation is noticed discontinue them. As yet, however, no deleterious effects have been noticed and the peculiar stupefying condition that the bromids produce is wanting. The Doctor thinks the best effect was noticed in giving the coal-tar products where the bromids have been freely and continuously used and had failed to give good results. He would recommend, therefore, putting the patient first on the bromid treatment and pushing it to tolerance. He claims that his treatment with the Flechsig method was *nil*. One reason for discontinuing use of bromids was their toxic effect on the nervous elements in the nature of degeneration. The reader of the paper cautioned his hearers to search for the reflex causes of epilepsy, and cited the case of a girl of 14, well developed, with a negative hereditary and personal history. Her teeth were large and sound, but the two upper canines had never come down; the incisors, being large, had filled up the space, and the two canines developing later were protruding themselves forward beneath the alæ of the nose. In a man of 16, of good build, good habits and good family, the last molar on the left side had grown up to the full height of the other teeth, but the tough mucous membrane still covered *it, and* when his physician had removed this his *attacks of grand-mal* disappeared and those of *petit-mal* became *much less frequent. Another case* was that of a normal child, 4 years of age, who developed epilepsy, and attacks occurred daily. At the time the child was seen it was almost a complete imbecile. The persistent use of a vermifuge brought away a mass of round worms, after which the child recovered. The Doctor referred to autointoxication as a cause of epilepsy and said that in the body, as the result of tissue changes and changes in the foods, toxic alkaloids are developed which should receive attention so that we should be able to eliminate them from the body. As in hereditary neurotics, putrefaction of the alkaloids may bring about the same loss of equilibrium in the cortical cells. So the excrementitious poisons should be evacuated from the body by drugs that will act on the liver, intestines, kidneys and skin, and while doing this we should not forget out-door physical exercise, restricting the appetite and giving a large amount of vegetable food. While the majority of people eat too much, the epileptic, of all sick people, is a heavy eater and recognizing physical exercise and restriction in the diet are two essential factors in the treatment of epilepsy.

The author welcomes the endeavor being made by several states, and also by some of the countries of Europe, to establish farms and homes for epileptics. He does not believe that surgery offers much hope for the general epileptic. Hope could only be expected in these cases by surgical operation where the spiculum of bone and blood clot or some cause that was resulting in some gross anatomic lesion could be removed by surgical interference. To illustrate the last point, he cited the case of a farmer with good habits who, during the past two years, has had repeated attacks of acute delirious mania which would last from one-half hour to several hours. The patient was struck on the head by a log-chain two years ago, and was sent to a surgeon to be trephined; but where to trephine was the question. The scar was located over the center for the left leg, but the patient had never had any spasm or other nervous trouble in the left leg nor any disturbance of motion, sensation or function anywhere. So the frontal lobes were considered, and then the trephining was given up and, on further examination, it was found that the patient was unable to read for any length of time on account of asthenopia.

The Kings County Medical Association.

Brooklyn, New York, March 13, 1900.

UTERINE FIBROIDS: ABSENCE OF HEMORRHAGES.

DR. ALBERT M. JUDD presented a specimen of fibroid uterus, which he had removed by operation, the chief feature of interest being the absence of any history of hemorrhages.

SOME IMPROVEMENT IN GENERAL ANESTHESIA.

DR. THOMAS L. BENNETT, of New York County, read a paper with this title. He said that the method of anesthetization known as gas and ether constituted one of the happiest and most valuable modifications of anesthesia. The safety is increased from the fact that the dose of ether is diminished. The anesthetization is more rapid, and the sensations before loss of consciousness are vastly more agreeable with gas and ether than with either ether or chloroform alone. Complete anesthesia can be induced in from one to four minutes, according to the individual. By this he did not mean to say that it should always be done so rapidly, for, in some instances, this rapid method is certainly objectionable. A particularly noticeable feature of this method is the absence of the stage of excitement. To start with a struggle is a bad beginning for almost any patient who is about to undergo a critical operation, and, in some cases it becomes a positive danger. This is especially true of ectopic pregnancies about to rupture, also in cases of internal abscess, and of severe visceral disease. Bronchorrhea is very much less frequently seen with gas and ether than with ether alone. Owing to the small quantity of ether used, the unpleasant after-effects are very greatly lessened. The speaker said that we are indebted to the late Dr. Clover, of England, for this method, described in 1876 and used quite extensively in that country since that time. Dr. Bennett introduced the method into New York City in 1897, and it has since been adopted in a number of the hospitals.

Differences of opinion have been expressed regarding the advisability of an abrupt or a gradual transition from the nitrous oxid gas to the ether. Hewitt's gas and ether inhaler he considers an excellent apparatus, and so constructed that it can be easily attached to the Clover ether inhaler. In the latter, the ether chamber is so arranged on a central chimney that when the chamber is rotated ether is gradually admitted. Hewitt's gas apparatus consists of a bag, a valve chamber, and a face-piece. In using the combined apparatus the patient first breathes gas from the bag, the expirations escaping. After about fifteen seconds the patient becomes unconscious, and the ether is then turned on. After about one minute anesthesia is complete, chiefly owing to the nitrous oxid gas, and there is cyanosis present. Air is admitted, and ether also added, the proportion of ether being gradually increased until there is sufficient to maintain the anesthesia without any gas. Dr. Bennett said that long experience had taught him that while Clover's ether inhaler is the best for inducing anesthesia, Ormsby's is better for maintaining it. He has, therefore, endeavored to combine these in one apparatus of his own invention. The ether chamber is first charged with ether by pouring it on gauze. The bag is then filled with nitrous oxid gas, and connected with the ether inhaler, the valves being so adjusted that gas is admitted to the patient. After the first few inhalations of the gas it is advisable to allow the patient to rebreathe the gas from the bag. The ether should be turned on so gradually that it does not excite cough. When cyanosis, jerking respirations and twitching of the extremities occur the valve is opened for a moment to allow the admission of air and cause the disappearance of the cyanosis. The ether is then pushed until complete ether anesthesia is secured. It is the rapid induction of the anesthesia that permits the doing away of the stage of excitement. It is almost impossible to induce ether anesthesia quickly enough if an ordinary cone is used. Gas and ether might be used in practically all cases in which ether is suitable. Special caution is necessary, however, as to the amount of gas effect to be produced in certain cases. Patients having dyspnea from any cause, while not good ether subjects, are particularly bad ones for gas. Very fleshy individuals with short stout necks should have very little gas before ether. He emphasized the great danger of giving chloroform after nitrous oxid gas. Under such circumstances one simply invites a fatal ending from the action of the chloroform.

For many years it has been taught that the anesthesia of nitrous oxid gas is nothing more than asphyxia, but this has been conclusively disproved since 1878 by the induction of anesthesia with a combination of oxygen and nitrous oxid gas, the blood of the patient remaining of a bright red color meanwhile. This method of inducing anesthesia is valuable, most suitable for very short operations, but can be continued for a considerable time, and with much satisfaction, in certain cases. This difficult method has been rendered practicable largely through the labors of Hewitt. With his apparatus a double bag was used, one-half of the bag containing oxygen, and the other half nitrous oxid gas. The gases are mixed in a metallic chamber, the proportion of the two being varied at will by an ingenious arrangement of valves. From one to twenty parts of oxygen may be used with the nitrous oxid gas. The bag is filled about three-fourths full with the two gases, and the valves tested to be sure that they are working perfectly, and that there is no leakage of air around the face-piece. The index is then turned to No. 1 or No. 2, giving about ninety-eight parts of nitrous oxid gas and two of oxygen. After three or four breaths have been taken, the indicator is moved so that the patient gets three parts of oxygen, and, after a few more respirations, the proportion is still further increased. A small proportion of oxygen is used at first because one must allow for the oxygen already in the patient's system. If this were not done, the patient would probably become excited. After the first minute, the index finger points to six or seven, and signs of anesthesia are beginning to be present. Complete anesthesia by this method is induced in from 1½ to 2 minutes. At this stage, one usually administers about ten parts of oxygen and ninety of nitrous oxid gas. As a rule, the color of the patient at this time is quite normal. If the anesthetic is then stopped, the anesthesia will continue for from thirty to sixty seconds. If anesthesia is to be maintained. the percentage of oxygen is gradually increased. Sudden changes in the percentages of the two gases are decidedly objectionable.

(To be continued.)

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
61 MARKET STREET, - CHICAGO.

SATURDAY, APRIL 7, 1900.

CHRONIC VILLOUS POLYARTHRITIS.

There is a growing belief that there are numerous varieties of acute arthritis dependent on different causes, although the most common and the best-defined of these is that which may perhaps be considered specific and alone entitled to the designation "acute rheumatism." It is probable, also, that some of the conditions included under the heading of subacute rheumatism are really not rheumatic at all in the sense in which this term is applied to the specific variety of acute polyarthritis. In the same way confusion exists in the classification of the several chronic diseases of the joints. Occasionally chronic arthritis is the sequel of acute rheumatism; at other times it may be wholly unrelated to previous articular disease and may set in insidiously and progress slowly. Although among this latter group so-called rheumatoid or deforming arthritis is a well-recognized condition, both clinically and pathologically, its essential nature yet remains unexplained, and little is known with regard to its etiology.

An interesting discussion of this disorder and of another that may be mistaken for it is entered into by Schüller,[1] in whose opinion a sharp distinction should be made between chronic villous arthritis and deforming arthritis. The former is a peculiar morbid process, occurring with relative frequency, involving generally several and often numerous joints, beginning usually in several synchronously, though exceptionally remaining localized to one. Sooner or later, generally slowly, with pain, enlargement and deformity of joints occur, with impaired mobility and usefulness. The changes in the joints are peculiar, depending almost exclusively, at least essentially, on chronic inflammatory enlargement and chronic inflammatory hyperplasia of the villi of the synovial membrane, while the cartilage and bone of the articular extremities remain uninvolved. Generally, in consequence of these villous hyperplasias, irregular prominences appear at various parts of the articular capsule, in seat and form differing entirely from the well-known typical and uniform swelling of the articular capsule such as results from fluid effusion. Although, at times, some fluid may be found in such joints, this effusion is wholly subordinate to the villous hyperplasia of the synovial membrane. The affected extremities, further, assume abnormal positions, varying with the individual member, but quite characteristic for each. The cartilaginous borders of the articular extremity can be felt to be unchanged.

This peculiar disorder has been considered chronic articular rheumatism, joint-syphilis and gout, but it has been shown to be an independent affection. The condition has been studied both after death and after operation, and has been found to consist essentially in chronic inflammatory hyperplasia of the synovial membrane in the form of peculiar fringes and villi, much larger and more massive than normal, or than are observed in connection with other chronic inflammatory disorders of joints. The villi often exhibit dendritic ramifications, although they may be undivided. They are generally firm, though at times they may be soft and slippery, and they vary from the most delicate filaments to club-shaped structures, with thick, broad extremities or leaf-like in shape. In the freshly opened joint they appear reddish, bluish-red, greatly swollen and vascular. In no instance, even when the disease has persisted for many years, is the cartilage affected, as in deforming arthritis, although in the latter villous hyperplasia of the synovial membrane may take place. In one variety of the disease the villi, instead of forming massive hyperplasias undergo early contraction, and finally contracture and ankylosis may result. This has been designated "ankylopoietic," in contradistinction to the "hyperplastic" variety. Both varieties may be present in different joints at the same time, or the latter may be transformed into the former. In the hyperplastic variety the morbid process generally begins with the formation in the lowest layers of the synovial membrane, principally through inflammatory proliferation of the connective-tissue cells and the large endothelioid cells of the synovial connective tissue, and in less degree through the migration of leucocytes, of small circumscribed inflammatory foci, accompanied by hyperemia and swelling of the entire synovial membrane. Only in the further course of the disease do similar circumscribed inflammatory foci appear just below the surface of the synovial membrane. In stained preparations all of these foci resemble spindle-shaped, oval or round dark nodules containing numerous blood-vessels. About them the entire connective tissue becomes involved in inflammatory cellular proliferation. The interstitial connective tissue swells and is penetrated by numerous blood-vessels. The small inflammatory foci bear a certain resemblance, in structure and in arrangement of their cells, to some young tubercles, from which they differ, however, particularly in the presence of an abundance of newly formed blood-vessels; and also in never undergoing caseation. The foci increase in number and appear at the surface of the synovial membrane, which they elevate in places and then form villi. Although proliferation of the villi is first noted in situations where villi normally are present, by far the largest number are formed anew, and apparently in the manner described. Villi also contain inflammatory foci arranged in groups and penetrated by blood-vessels and in the center generally also a relatively large vessel surrounded by inflammatory connective tissue. In other villi fat cells or fatty tissue may be present in addition.

---

[1] Berliner Klin. Woch., 1900, Nos. 5, 6 and 7.

A further characteristic of chronic villous arthritis is the presence of short bacilli with polar enlargements, dumb-bell shaped bacilli, which are situated especially in the small foci of inflammation in the synovial membrane; but also, here and there, especially near the blood-vessels, in the inflamed synovial tissue and also in the villi, preferably within the inflammatory foci. The appearances suggest that the bacilli may be brought by the blood and set free in the joint, where they give rise to the subsequent processes. The relatively chronic action corresponds with the participation, especially of the large connective-tissue cells and of the endothelioid cells of the synovial membrane, in the formation of the inflammatory foci by their swelling, nuclear multiplication and division, as these are first affected by the irritation of the bacilli. Often the tissues about collections of large numbers of villi are pale and the nuclei faint, and this effect has been attributed to the toxic influence of the bacteria. Both the inflammatory hyperplasia of the synovial membrane and the often enormous production of villi, as well as the cellular multiplication, are attributed to the action of the bacilli. Everywhere in the inflammatory foci in the synovial membrane and in the villi numerous cells can be found with two and even with three nuclei. Mitotic changes in the nuclei have also been observed. These factors furnish the conditions for the hyperplasia of the synovial membrane, and they explain the progressive character of the villous formation. In addition to the bacilli described, cocci also are sometimes found, but these are thought to take no essential part in the hyperplastic villus-forming inflammatory process. They are found likewise in association with the most varied forms of articular inflammation. By treating animals with cultures of the peculiar dumb-bell shaped bacillus it has been possible to excite villous arthritis like that observed in man.

In the treatment of chronic villous arthritis the only successful remedies consist in the injection of a mixture of guaiacol, iodoform and glycerin and extirpation of the hyperplastic tissue. In accordance with the extent of the disease and the size of the joint affected the injection must be repeated more or less frequently at intervals of about twelve days. By this means long-continued improvement may be effected, villi reduced in size, pain relieved, impairment of mobility lessened and function restored. In some cases permanent recovery has resulted. Massage and electricity may be employed as adjuncts, and guaiacol and europhen-oil may be rubbed into the joints, particularly the smaller. Douches and baths may exert a useful local effect at an early stage of the disease. Operative intervention may be followed by hydrotherapeutic measures, such as hot baths, saline baths or cold affusions. It is well in connection with both varieties of treatment to administer guaiacol or thiocol. It would be futile to rely on these remedies alone, but after previous treatment by injection or operation they appear not alone to contribute to the improvement in the general condition, but also to confer a certain protection against recurrence.

OPERATION FOR HEMATURIA IN NEPHRITIS.

In recent years much has been said concerning hemorrhage from the normal kidney. Usually the diagnosis settled upon tumor, tuberculosis, or nephrolithiasis, and great has been the surprise when the kidney on exposure was seen to be macroscopically normal, as has happened not a few times. In many of these cases the apparently normal kidney has been the seat of nephritis, but cases have been recorded of renal hemorrhage and hematuria in which the histologic examination failed to reveal any changes in the kidneys. And there are many other cases the course of which would seem to speak for normal kidneys, although no opportunity for microscopic examination was given. Israel,[1] in his article on splitting of the kidney in acute and chronic diseases of the parenchyma, believes that a large number of the instances of hemorrhage from apparently normal kidneys concern chronic nephritis. As pointed out by Naunyn,[2] the hemorrhages now referred to are different from those observed in connection with *acute and chronic*, so-called hemorrhagic nephritis. It concerns copious, periodic hematuria associated with attacks of renal colic. Consequently the attention is first directed to stone in the kidney, to tuberculosis, or to tumor, and cases are more frequently placed in the care of surgeons than of physicians. As indicated in not a few cases, operations have been made on the suspected kidney, cystoscopic examination and ureteral catheterization usually correctly indicating the kidney affected. Extirpation of the organ and mere incision into its substance have yielded about equally successful results, the hematuria and other symptoms subsiding; hence Israel's dictum that nephrectomy should not be performed on account of the hemorrhage alone. Macroscopically apparently normal, the microscopic examination of the kidney revealed nephritic changes, generally of slight extent. In a kidney of this sort, examined by Floderius,[3] *there was a disseminated*, sclerotic glomerulitis with degeneration and atrophy of the epithelium. In most cases the uriniferous tubules contained but few blood-corpuscles. Naunyn suggests the renal pelvis as a possible source of the bleeding. Inasmuch as operation has been followed by freedom from hemorrhage and by diminution or disappearance of albumin in the urine, it has been thought that the disease was unilateral. This does not necessarily follow, because we know *that there may be chronic nephritis without* recognizable symptoms, and Naunyn suggests that operation on one kidney may also have a beneficial effect on the other.

Naunyn further remarks that these observations place nephritis among those diseases that occasionally demand surgical interference, in this case massive hemorrhages. He even goes so far as to intimate that nephrotomy may have *a larger* place *in the treatment of nephritis*. Harrison, in 1886, argued that puncture of the kidney in

---

[1] Mitteilungen aus den Grenzgebieten der Medicin und Chirurgie, 1899, v.

[2] Ibid., 1900, 639.

[3] Upsala Läkareföreningens Fort., 1899.

Bright's disease would be beneficial through relieving the swollen parenchyma of the tension in which it is held by the capsule. Harrison cited the good effect of iridectomy in glaucoma—relief of tension of the eyeball—as an example of what might be expected of nephropuncture in nephritis. And recently Israel has recorded a case of acute nephritis in which incision of the kidney had a decidedly good effect. The course of nephritis is often favorable, even in severe cases, and it is to be hoped that the results of operations sure to be undertaken in this disease be not vitiated by rashness and ill-considered resort to operative interference.

ALCOHOL AS AN AID TO THE NATURAL PROTECTIVE AGENCIES AGAINST INFECTIONS.

The existence of bactericidal substances in the serum of the blood—the alexins of Buchner—has recently been questioned by Baumgarten and others who would refer the microbicidal action of the serum to osmotic disturbances and plasmolysis of the bacterial cell, caused by the salt present in the serum. In reply, Buchner[1] points out that bacteria perish in salt solutions, distilled water, etc., principally because of the lack of nourishment. Active serum added to reliable and good culture-media may destroy bacteria inoculated on such media; serum loses this action when heated to 55 C.; when placed in the ice-box, and even when left at the room temperature; and then it becomes a good medium for bacteria. Hence blood-serum must contain distinctly bactericidal substances, and Buchner does not hesitate to advocate the treatment of local infections by means of increased supply of blood to the part.

Buchner holds that the blood is the great antibacterial power of the body. While some bactericidal substances are present probably in nearly all or all cells, yet the blood-serum is the great storehouse for them. The leucocytes furnish alexins to the serum, and take up bacteria, but they do the latter rather by way of absorption than as phagocytes in the sense of Metchnikoff.

The bactericidal substances are regarded as enzymes; the antibacterial action of the fluids of the body is simply a form of digestion. The leucocytes contain proteolytic enzymes which dissolve tissue, as seen in abscesses even when their contents are sterile, and absorb catgut and other digestible substances introduced into the tissues; undoubtedly the bactericidal and proteolytic substances are closely related; in fact, Buchner regards them as identical.

It is on the basis of the experimental and theoretic considerations just referred to that Buchner proposes to use the blood in greater measure than Nature does in the struggle against infectious processes. This method of treatment has already been recommended by Bier and others, an artificial passive hyperemia being the plan proposed. Buchner lays stress on the greater advantage of an increased active flow of blood through the affected part, believing that a continuous change of the blood will insure more pronounced antibacterial action. The beneficial action of hot air in chronic rheumatism and other examples are cited as illustrations of what may be accomplished, but Buchner lauds especially the healing action of alcohol. Alcohol has been used to advantage in the treatment of phlegmonous and erysipelatous processes. Its direct disinfecting action when so used is of but little import; it is the vascular dilatation and hyperemia produced by alcohol that explain the good effects following its use. Buchner shows, by means of numerous experiments, that out of a long list of substances alcohol is the most powerful local vasodilator. The application of a dressing of 96 per cent. of alcohol to the forearm is shown, by some of Buchner's pupils, to very decidedly increase the arterial pressure. The result is an increase of the amount of blood passing through the part in a given period of time.

Buchner calls attention to the surprisingly good results that follow brushing of the teeth and the gums with 45 per cent. alcohol twice daily. He reports striking results obtained with alcohol dressings in the treatment of articular tuberculosis. He advocates alcohol dressings in the treatment of syphilitic gummas, on the score that the ferments in the serum not only destroy the specific germs but also hasten the removal of the pathologic products. Laryngeal tuberculosis and peritoneal tuberculosis are also mentioned as suitable conditions for alcoholic dressings. Inhalation of alcohol in phthisis and alcohol gargles in angina and diphtheria are suggested. It now remains to test, in clinical practice, the theory of the curative action of hyperemia produced by the application of alcohol.

NORMAL APPENDECTOMY.

A contemporary[1] has devoted a recent issue to a sort of symposium on the propriety of the prophylactic removal of the appendix in infants. This was tentatively suggested in 1890 by Burt G. Wilder, and the idea seems to have taken root sufficiently to call out these expressions of opinion ten years later. The opinions on the subject are apparently given in response to a circular letter of inquiry addressed to leading surgeons, and are of interest in showing the trend of surgical opinion on this point. Out of about 90 who gave their views, only 4 or 5 gave even a qualified approval to the procedure at the present time, and only 3 or 4 ventured to hint that the time might come when it would be recognized and adopted by the profession. One was non-committal, several objected to the measure because of the danger from laparotomy in unskilled hands, which would be inevitable if the practice became general, and quite a number condemned it in the strongest terms as "absurd," "folly," "pernicious and little less than criminal," "crazy," etc. One surgeon goes into an elaborate calculation to show how large a number of lives would be sacrificed by adding to the normal death-rate the minimum mortality of the operation as estimated—.5 of 1 per cent.—and although there is an error in one of his calculations the others make a very formidable showing. Several make a point of examining the appendix in laparotomies for other causes, and remove it if any abnormality is found; one or two think it justifiable to remove a normal appendix under such conditions. The discussion covers the whole subject of the surgery of appendicitis and one prominent surgeon says that he now operates on very few patients, while formerly it was the exception when he did not operate. He believes the majority can be cured without operation; one or two others practically agree with him. Another compares our knowledge of the possible functions of the appendix with that we possessed a few years ago as to that of the thyroid and suprarenal glands and, for reasons that can be readily deduced, objects to its removal unless necessitated by actual disease. These all show the wide range of opinion on the subject, together with the overwhelming majority in favor of conservative as opposed to radical measures. There is a tendency for every new or striking surgical procedure to have, at some time or another, what one may call a "boom," and appendectomy has followed the fashion in this respect. Whether the extreme conservatism of the one or two surgeons above mentioned will in time prevail may perhaps be doubted, but it seems reasonably certain that the opposite extreme advocated by a few is very unlikely to be accepted by any proportion of the profession. The future of normal appendectomy—if it has any—is certainly in the very dimmest distance, if not altogether out of sight.

---

[1] Münch. Med. Woch., 1899.

[1] The Medical Review, St. Louis, Mo., March 17; see also Current Medical Literature department in this week's Journal.

"THE TREATMENT OF AMERICAN MEDICAL WRITERS BY A CONTEMPORARY."

Under the above title a contemporary indulges in a most undignified and uncalled-for criticism of this journal and its management. Our first intention was to ignore the matter, but on reflection it occurred to us that possibly some might accept as correct the assertions made. The writer of the editorial in The Journal which forms the main basis of the criticism is a gentleman above reproach, a scientific physician who is recognized as an authority, and one who does not need to plagiarize or stoop to such methods as are implied by the editor of the *Philadelphia Medical Journal.* The following letter from him will satisfy any impartial reader:

To the Editor:—On comparing the editorial entitled, "Syphilis of the Stomach," in your issue of March 24, 1900, with the remarks in an editorial headed "The Treatment of American Medical Writers by a Contemporary," in the *Philadelphia Medical Journal* for March 31, 1900, the following facts will appear: The bibliographic references are not drawn wholly from Einhorn's article in the *Philadelphia Medical Journal* of February 3, as claimed in its editorial of March 31. Einhorn makes no reference to the contribution of Cesaris-Demel, which is extensively referred to in the editorial in your issue of March 24, and for the good reason that Cesaris-Demel's article appeared almost simultaneously—but a little earlier than Einhorn's. The fact is that the beginning of the editorial on "Syphilis of the Stomach" was written before Einhorn's article appeared, the writer of the editorial being fairly familiar with the literature on the subject by reading Chiari's, Flexner's, Fraenkel's, Aristoff's and other articles on the subject.

In the second place every statement in the editorial directly or indirectly suggested by Einhorn's article is credited to Einhorn, whose name occurs no less than four times in the editorial. The *Philadelphia Medical Journal* errs when it says that "no reader could guess where Dr. Einhorn's article appeared," because at the bottom of page 755, of The Journal of March 24, the reference to Einhorn's article is given correctly, and credited to the *Philadelphia Medical Journal.* As a further illustration of conscientious effort to do all writers quoted full justice, may be mentioned that on page 756 of The Journal of March 24 appears the reference figure 5 after Einhorn's name, the figure referring again to the *Philadelphia Medical Journal* of February 3, 1900, but the reference to which the 5 refers—*loc. cit.*—and which should appear at the foot of the page, was omitted in the makeup. This, however, is immaterial, as it gave the same reference as the one under the figure "4" on the preceding page.

From what has been said there can be no doubt that Einhorn's work has been fully recognized and credited.

The Author of Editorial in Question.

We do not care to notice the other insinuations, as we consider it beneath the dignity of a scientific journal to stoop to childish methods.

THE PATHOLOGIC CHANGES IN THE DIGESTIVE TRACT IN PERNICIOUS ANEMIA AND SO-CALLED INTESTINAL ATROPHY.

Faber and Bloch[1] describe four cases of typical pernicious anemia. A complete or a considerable diminution in the gastric functions was observed, chymifaction was feeble, there was no free hydrochloric acid, and the total acidity was much reduced in three of the patients. In two the microscopic examination of the stomach showed a chronic inflammatory process of varying intensity, most marked near the cardiac end and diminishing toward the pylorus, the duodenum being normal. The process is best described as a progressive, atrophic, interstitial gastritis. As regards the atrophic changes in the intestines, on which there has been laid so much stress, some even going so far as to attribute the origin of pernicious anemia to them, Faber and Bloch find themselves constrained to assume a decidedly critical attitude. In the first case the intestinal changes appeared to correspond closely to those described as atrophic, but it seems that part at least of the alterations are of cadaveric origin. In two subsequent cases a solution of formol was injected into the peritoneal cavity immediately after death; the intestine was found but moderately distended, there was no real cadaveric meteorism, and microscopically the various layers were found to be well preserved; even the epithelium of the villi was perfect. In those parts, however, in which there had been some distension, the wall seemed thin, the submucous coat was free from folds, and the glands of Lieberkühn appeared to be few and far between, the whole resembling the appearances described as caused by atrophy. This observation led to experiments on human and animal intestines, and sections of the artificially distended intestine were compared with those of the contracted one. It was found that the mucous membrane is thrown into folds by contraction, and flattened out by distension; further, that the glands of Lieberkühn are pressed nearer together in contraction and widely separated in distension; the glands become short, thick, somewhat convoluted when the bowel is distended at the same time as the villi are rendered shorter and broader at the base, while the coats become thinner. The authors therefore conclude that there was no real atrophy in the intestine of their cases of pernicious anemia, and that the changes described by others, especially German writers, as the result of atrophy, are the result of cadaveric changes and distension. Hence the theory of intestinal atrophy in pernicious anemia can not be upheld.

---

[1] Nordiskt Medicinskt Arkiv. 1899. x.

THE PATHOLOGIC EXHIBIT AT ATLANTIC CITY

The certainty that a pathologic exhibit will be given in connection with the coming meeting of the American Medical Association prompts the observation that practical pathology has recently made rapid progress among the rank and file of the profession. Beginning a few years ago as an elective study in the colleges, it now takes rank in the curriculum with anatomy and physiology. The prolific multiplication of medical societies has also contributed to the diffusion of pathologic knowledge, and the introduction of the pathologic exhibit, as a feature of the annual medical gatherings, gives promise of valuable results. In the larger cities are organizations devoted exclusively to the consideration of pathologic questions, or more frequently an occasional evening or a part of the regular session is given over to the presentation of pathologic specimens and kindred matters.

The exhibit contemplated for the Atlantic City meeting can not be viewed as experimental, as the plan was tried by the Indiana State Medical Society last year, at Columbus, with a gratifying degree of success. The national movement has not been officially authorized by the Association, but most certainly the scientific spirit and better judgment of the membership will uphold the President in his action in appointing an "Unofficial Committee" to carry on the work. Although the chief aim will be the collection of gross pathologic specimens, photographs of interesting cases, etc., the utmost liberality will be shown in scope and character of the exhibits. Practical scientific demonstrations of diverse character will be made. The object will be purely educational and illustrative of the latest advances in medical science. The exhibit will prove an interesting and instructive digression from the monotony of the conventional program. We are informed that the plan of securing contributions has been chiefly through the state medical organizations, some of which have well-selected committees, actively engaged in collecting and preparing material. A number of public hospitals, colleges and laboratories will send exhibits on their own account. The large number of well-known pathologists who are giving generously of their time toward the furtherance of this laudable undertaking should stimulate reciprocal effort from the profession throughout the country.

FRENCH TEMPERANCE METHODS.

The French temperance societies have ways that are different from those in vogue here, and which seem to us somewhat odd, as compared with those of cis-Atlantic temperance workers. The theory on which they appear to work is that abstinence is a positive, not a negative, virtue; in other words, they put the line of temperance rectitude down to about what would here be called moderate drinking, and consider any extra self-denial in this regard as worthy of special praise and reward. We read, therefore, of bestowal of temperance medals on abstainers and the greater the temptation the more meritorious the resistance. Thus we hear of a special reward to a teetotal saloonkeeper who, when his customers insisted on treating him, drank water for white wine and colored syrups for "Amer Picon." This looks to American eyes like rewarding the devil for not eating the apple himself but only tempting Eve, though it may have its utility in France. In this country we fear a bartender with a temperance badge would hardly be taken as a temperance object-lesson, but would be thought a good joke on the temperance people. In spite, however, of all these praiseworthy efforts, intemperance appears to be on the increase in France, and to be assuming new and damaging phases, especially in some sections. France has long been considered one of the most highly civilized nations, but it is from there that we receive most suggestions of truthful James's query, "Is our civilization a failure and is the Caucasian played out?"

DIET OF TYPHOID FEVER.

By reason of its long duration, its pyrexia and the character of its lesions, typhoid fever may be considered a wasting disease, and when death occurs, barring complications, it is most commonly due to asthenia. This result may be due in part to the insufficiency of the diet usually employed, and the tendency to remove this source of danger that has manifested itself of late in various places would seem to be a natural one. The impairment of appetite, the deficiency in secretion and the interference with the digestive functions resulting from the pyrexial process, as well as the state of the intestine and the presence of diarrhea, will as a rule contraindicate the administration of solid or semisolid food or even of liquid food in large amounts, but in not a small number of, and perhaps in most, cases at some stage of the disease these deterring factors are not present, and under such circumstances an amplification of the customary diet would seem justified. The dangers to be feared from such a course of procedure are the induction of diarrhea, hemorrhage, perforation or relapse. Extensive observations relating to these points are wanting, but the results obtained in a series of 200 cases of typhoid fever in which *a more liberal diet was permitted* are reported in a recent communication by Marsden.[1] All of the patients received milk only at first, but in mild cases, without contraindication, bread and butter with custard, fish with mashed potatoes, chicken, bread and butter, and finally minced meat were given on successive *days until convalescence was well established. In severe* cases peptonized milk alone or together with meat-juice, etc., was continued into the period of convalescence. The patient's wishes were accepted as a guide, in so far as they could be determined to be genuine, and in no instance was solid food forced on a patient. No injurious consequences were observed, while recovery appeared to take place rapidly. The risk of surreptitious feeding with possible harmful substances was diminished, and the tendency to bolt food without proper mastication was lessened, as was also that to asthenic complications such as post-typhoid anemia, gangrene, etc.

---

[1] The Lancet, January 13, p. 90.

CONTRACT PRACTICE IN MASSACHUSETTS.

Massachusetts is just now the storm-center of club practice, and Springfield the immediate focus of the disorder. The secret and benefit societies, representing some four thousand members, including three thousand heads of families, are said to have found five physicians who are willing to go to Springfield under the inducements they offer. These are the salary of about $800 from the membership fees, and the prospects of what can be made from practice in the families of members who are not entitled to free medical treatment. It is estimated, by the societies, that this will amount to $3000 a year in addition to the sum above mentioned, but they are careful not to guarantee this much. In view of the fact that these society directors will not be able to call any of the regular physicians in consultation, and that they will, or ought to be, ostracised by reputable physicians, it is quite likely that they will regret their action before long. It is not likely that every one in the three thousand families will willingly submit himself solely to the five selected with no chance of the benefits of any superior skill. If the members of the profession stand together it will be only a question of time when these societies will disintegrate from their own defects at least so far as their medical practice feature is concerned. In Pawtucket, R. I., some society contract physicians who have been refused consultations have already begun to find their situation intolerable and have announced their intention of withdrawing from contract practice. This is not "trades unionism," it is simply the elimination of contract commercialism from medical practice by the professional non-recognition of those that indulge in it. The physician who puts himself at the beck and call of any one who pays a dollar a year cheapens himself and degrades his profession, and professional non-recognition is only his desert. So far as it appears from the newspaper accounts that have reached us, no physicians of any standing have accepted these positions, which fact is creditable to our Massachusetts confrères.

NITROGENOUS ELIMINATION AND DIAPHORESIS IN CONNECTION WITH DISEASES OF THE KIDNEYS.

The utility of sweating in the treatment of chronic parenchymatous nephritis has not been admitted by all clinicians. In fact, there are some who consider diaphoresis unnecessary in this connection, and under some conditions not unattended with danger. It is suggested that in the process of sweating considerable water, but relatively little nitrogenous matter, is eliminated through the skin. In this way, it is thought, there results an increased concentration of the blood, which disappears in the course of a few hours. In the course of this readjustment nitrogenous fluid is taken up from the tissues by the blood, and this may be a source of danger when nitrogenous elimination is deficient. Clinical experience, however, is not always in consonance with this view. Although uremic attacks have been observed immediately after forced sweating, their occurrence is not the rule and the widespread employment of this procedure would seem to indicate that the danger is not considerable. It has been pointed out, further, that the retention of nitrogenous matters is not responsible for the uremic attacks and, conversely, that free elimination of nitrogenous matters does not prevent the development of such attacks. With the view of reaching an impartial opinion on such a subject, Köhler[1] undertook a study of the literature, which he supplemented by a series of experimental observations in four cases of renal disease. He was unable to demonstrate any increase in nitrogenous elimination during the sweating period, possibly, he points out, because the bath was not continued long enough. The amount of sweat varied greatly in the individual patients, although the amount of fluid ingested was the same in all. In no case was the bath attended with or followed by uremic attacks. The elimination of nitrogenous matter in the feces varied little in all of the cases. It was slight in comparison with nitrogenous ingestion, so that probably absorption and assimilation were active.

METHEMOGLOBINEMIA FROM CERTAIN DRUGS.

There are a number of drugs—some oxidizing, some reducing agents and others of neither character—capable of converting the oxyhemoglobin of the blood into methemoglobin and thus exerting a distinctly injurious influence. This condition is indicated spectroscopically by a band in the red portion of the spectrum between the lines C and D. This becomes the deeper and the more pronounced the greater the amount of methemoglobin present, while it disappears on addition of alkalies or on strong dilution with water. Two other bands appear in the green portion of the spectrum between the lines D and E, and these are supposed to be of quantitative value. To determine the influence on the blood in this connection, of two of the more recently introduced antipyretics, acetanilid and phenacetin, Dennig[2] undertook a series of spectrophotometric observations and found that these substances introduced into the stomach or the bowel of the dog speedily induce changes in the blood indicative of the formation of methemoglobin. This latter advances progressively hand in hand with the destruction of oxyhemoglobin. The changes in the blood may persist for a considerable length of time—from 24 to 48 hours—so that the possibility of a cumulative action is to be thought of, as elimination takes place slowly. When two-thirds of the oxyhemoglobin of the blood is replaced by methemoglobin, death occurs. The bodily temperature has rather a declining tendency, although hyperthermia may be present. The respiratory frequency and the depth of respiration are variable. In severe cases the pulse becomes frequent and arhythmic. When the methemoglobinemia is not excessive, evacuation of the stomach and administration of anodynes will suffice, but when the former reaches 50 per cent. or more transfusion of blood is indicated. Making allowance for the fact that the results of experiments on lower animals are not directly applicable to similar conditions in human beings, the outcome of the investigation is believed to furnish a safe therapeuti[illegible] in ca[illegible] intoxication with the antipyret[illegible]

---

[1] Deutsches Archiv. f. Klin. Med., B. [illegible]12.

[2] Deutsches Archiv. f. Klin. Med., P[illegible] p. [illegible]

Medical News.

A. J. Newton, Lord Mayor of London, has donated $10,000 toward defraying the expenses of the hospital ship *Maine* in its beneficent work in South Africa.

The half-crown equipment fund being raised by the editor of the *British Medical Journal*, in connection with the South African war, now amounts to something over £335.

An absurd rumor was circulated last week to the effect that Dr. Richard Dewey, of Wauwatosa, Wis., was insane. It may be needless for us to say that the rumor is groundless.

The Municipal Council of Paris has decided to put up signs prohibiting expectoration on the floors and sidewalks. The *Figaro* observes that no attention will be paid to the admonition unless a penalty is attached.

A sculptured tablet of great beauty was unveiled at the Military Hospital at Rome, March 18, to the memory of the members of the profession killed in the campaigns in the Crimea, in Italy and in Africa, 1848-1898. There are thirty names inscribed on it. At the base is the inscription: "The Colleagues, 1899."

According to new regulations in regard to vaccination, enforced in the German Empire, no physician is allowed to vaccinate unless he has certified that he has attended at least two public *Impfungsterminen* or vaccination courses, and has the requisite knowledge in regard to the production and preservation of the lymph.

We learn from the *British Medical Journal* that on the first day of the congress against tuberculosis, to be held in Naples this month, a dinner will be given by the Neapolitan Committee of the Italian National League Against Tuberculosis, to 1200 of the poor of the city. Each will also be presented with a linen shirt.

Sir William Gairdner, professor of medicine at the University of Glasgow, has presented his resignation, to take effect after the summer graduation. The *British Medical Journal* says his decision in this matter is due to his failing eyesight rendering it difficult to read the enormous literature of his subject or to verify the statements of others by personal use of the microscope.

For the information of those whom it may concern, and especially state health and examining boards, The Journal wishes to say that the "Metropolitan Medical College," of Chicago, is practically the old, fraudulent "Independent Medical College" under a new name. This identity is acknowledged by it in claiming as its graduate a Wisconsin irregular, a diplomate of the old concern, whose legal standing is now before the courts of that state.

Germany's Medical Degrees.—The degrees in medicine, conferred by the German universities during the academic year 1898-1899, numbered 1050, according to the *British Medical Journal* of March 24. Berlin gave 87, Bonn 22, Breslau 30, Erlangen 47, Freiburg-in-Baden 60, Giessen 32, Gottingen 31, Greifswald 10, Halle 23, Heidelberg 32, Jena 34, Kiel 86, Konigsberg 24, Leipzig 55, Marburg 28, Munich 134, Rostock 14, Strassburg 43, Tubingen 46, and Wurburg 147. These universities conferred 1208 degrees the previous year and 1268 for 1896-1897.

Progress of the Plague.—In Bombay City, during the last six days of February, the deaths from plague were respectively 103, 101, 110, 121, 116, and 122, and for the week ending March 1, the total plague mortality was 765. Calcutta shows a steady increase in the disease, both in extent and virulence. On February 28, Karachi reported 12 new cases with 8 deaths. In Sidney, New South Wales, another death from plague was reported March 19, with 2 new cases, and up to this date 5 deaths occurred in Adelaide, South Australia. In Mauritius, during the week ending March 16, 5 new cases occurred with 2 deaths. The *British Medical Journal* of March 24 says there is no news of any existence of the disease in the South African quarters, and that it has not appeared in Cape Colony.

NEW YORK.

Dr. Henry's bill for shorter hours for drug clerks in New York City has finally been passed by the Senate.

The managers of the Hudson House of Refuge have chosen a woman physician as superintendent of the hospital. They have also appointed a woman resident physician.

On March 29 the State Senate passed the bill appropriating $150,000 for the establishment of a state hospital in the Adirondacks, for treatment of incipient pulmonary tuberculosis.

FIRE FOLLOWING FUMIGATION.

Several mild cases of scarlet fever having broken out in the Clinton Liberal Institute and Military Academy, at Fort Plain, the local board of health, with the assistance of four students, proceeded to fumigate the building with sulphur, but a fire resulted and, owing to the dense fumes produced by the sulphur itself, was not noticed until it was too late to do much, and most of the students lost their effects.

New York City.

The site of a new municipal hospital for Harlem, which has long been a necessity on account of the wretchedly inadequate accommodations of the present one, has been decided on.

Rev. George Baker, superintendent of St. Luke's Hospital, having given the best years of his life to the work, has retired. The Board of Managers has appointed Dr. Baker pastor emeritus of the hospital at a salary of $2000 a year. Dr. Baker has spent twenty-three years in the hospital, all but one having been in the position of pastor and superintendent.

A member of St. Bartholomew's Church has given $250,000 for the erection of a suitable building for the clinic which is now held in a dingy one adjoining the parish house. The fact that the clinic has been run by an endowment from the Vanderbilts led to the rumor that this donation came from them, but this is positively denied.

PRIZE AWARDED.

Some months ago Dr. Louis Livingston Seaman, who was major-surgeon of the First United States Volunteer Engineers during the Spanish-American War, offered a prize of $100 in gold, or a medal of that value, for the best thesis on "The Ideal Ration for an Army in the Tropics." The papers sent in were submitted to a committee consisting of Col. John E. Weston, acting commissary general, U. S. A.; Lieut.-Col. Charles Smart, deputy surgeon-general, U. S. A., and Lieut.-Col. William E. Dougherty, Seventh U. S. Infantry. On March 27 the prize was awarded to Capt. E. L. Munson, assistant-surgeon, U. S. A.

A NEW SWINDLE.

One of the latest frauds practiced on physicians and dentists is one in which the victims have been those professional gentlemen who are not averse to occasionally placing a small bet on horse races. The scheme is for two "horsey" fellows to call on the doctor and explain to him that, having heard of him through a mutual acquaintance, they wish him to attend professionally to a certain jockey in whom they are interested. They give him to understand that money is no object, and then, as they are just about to leave, it occurs to them that it would be no more than proper to put "Doc" on to "a good thing." They then explain how he can place a little bet in such a way as to make big money, and, as they are short, offer to part with a certain ticket at "what it cost them." These tickets are worthless.

ORANGES FOR CHARITY.

About a year ago New Yorkers sold a carload of oranges for charity, and sent the proceeds—$2000—back to California to aid the Los Angeles Home for Indigent Children. This generous response so pleased the Californians that the fruit growers there recently sent a carload to be sold in New York, the proceeds to go to St. John's Guild to extend its work with the floating hospital. The fruit was handled free from producer to consumer, railroads, express companies and auctioneer all contributing their portion to charity. The first box of oranges brought $270, and many sold from $50 to $100. There were 362 boxes in the carload and they brought on an average $13, the total amount realized being $4631.75.

NEW JERSEY.

Dr. William H. Shipps, Bordentown, has been chosen physician of the township board of health.

An extensive building erected by Frank A. Magowan, Trenton, N. J., which originally cost $250,000, will hereafter be used as an infirmary for nervous diseases.

Two women dressed as Franciscan nuns were recently arrested in Trenton charged with using fraudulent means for obtaining money for the relief of an orphan asylum in New York. As no one wished to appear against them they were released.

PENNSYLVANIA.

The Board of Health of Norristown, Pa., has passed a resolution prohibiting the distribution from house to house of sample drugs and patent medicines.

Bridgeton's Board of Health has become indignant over the belief that meat infected with tubercle bacilli has been sold in that city. It is proposed to appoint an inspector.

Philadelphia.

Another man was arrested during the past week for distributing circulars to pedestrians on the street. He was fined $20.

Dr. W. C. Hollopeter, March 30, tendered a banquet to several members of the faculties of the Medico-Chirurgical and Jefferson medical colleges.

Part of a residuary estate of the late Mrs. Sophia E. Chaill, amounting to $13,900, has been left the St. Agnes Hospital.

The Davis Obstetrical Society of the Jefferson Medical College gave its annual smoker on the evening of March 30.

Dr. Henry Cadwalader Chapman recently gave a banquet to the students of the Jefferson Medical College composing the Chapman Physiological Society.

Dr. Simon Flexner, of the University of Pennsylvania, has been elected a corresponding member of the Medico Societa Chirurgica di Bologni.

The Kensington soup house, which was opened for sixty-four days during the past winter, announces that during that time there were distributed 52,400 pints of soup, and 27,727 loaves of bread, to 216 families.

Through the bequest of the late Mahlon H. Dickinson, $5000 has been given the following named institutions for the endowment of free beds: Episcopal, Presbyterian, German, St. Mary's and the Jewish hospitals.

Since the accident which occurred adjacent to the Jefferson Medical College (see last week's Journal), it has been urged that some steps should be taken providing for the purchase of the entire plat of ground between Sansom and Walnut Streets, thus placing the property entirely within the control of Jefferson.

A committee of the Philadelphia County Medical Society, consisting of Drs. A. V. Meigs, James Tyson and S. Weir Mitchell, recently presented to the mayor a resolution requesting that the present plan of posting signs on the houses in cases of contagious disease be discontinued, or modified.

GERMANTOWN ALMSHOUSE.

The total receipts for the year amounted to $34,422.39, the total expenditures $32,291.69. The house physician made 315 visits, and the physician to the out-patient department made 903. Dr. Thomas L. Buckman has been chosen president, Dr. George H. Burgin is house physician, and Drs. Ernst H. Clouting and George Lewis Smith physicians to the out-patient departments.

CARE OF PATIENT.

A man suffering from a nervous affection, while being cared for by another inmate in a hospital here, sustained a fracture of the arm, and soon afterward died from heart disease. It is believed that death was hastened by the above injury, and the coroner's jury brought in a verdict of censure for permitting patients to wait on one another.

MARYLAND.

A bill before the House of Delegates of Maryland, to authorize castration for rape, has been unfavorably reported, the Senate concurring.

The dairy bill, providing for creation of a dairy commissioner for inspection of dairies and appropriating $5000 annually for expenses, has been killed in the House, on the ground that the state is too poor to stand any further appropriations.

Dr. Edward M. Schindel, democrat, was re-elected mayor of Hagerstown, March 26, over his republican opponent, Dr. Jeptha E. Pitsnogle, by a large majority.

MEDICAL PRACTICE LEGISLATION.

It is believed that the Medical and Chirurgical faculty's medical practice bill, now before the legislature, will meet with disaster. There is a strong lobby at work at Annapolis, from the colleges in Baltimore, determined to get rid of the clause requiring their graduates to take the examination of the State Medical Examining Board before license. They have not forgiven the Board for its rejection of their men in May, 1897, when so many "violated the pledge that assistance should be neither given nor received." On that occasion they wrote the Board a letter "demanding to know the methods employed" by the latter in determining the fact of violation, and threatening that unless the position of the Board was modified "a revolt is invited against your authority into which the medical schools of this city will most surely be drawn." This threat is now, it is understood, being carried out. It is a repetition of the experience of 1839, when the "Thomsonians" secured the repeal of the medical examination provided for in the charter of the faculty, and which it had been exercising without question ever since its institution in 1799. As a prominent member of the profession here said to the writer: "If our law is taken from us, what a dumping-ground for medical students from other states Maryland will become." He was wrong in supposing that exempting the Maryland graduates from the provisions of the law meant virtually its repeal.

Baltimore.

Dr. William Osler has decided to decline the call he received to the chair of medicine in Edinburgh University in succession to the late Prof. T. Grainger Stewart, the attractions and advantages of Baltimore proving superior to those of the Scotch capital. Dr. Osler is having quite a serious time with la grippe.

Dr. Thaddeus W. Clark, chief of the Neurologic Clinic, University of Maryland, has been appointed assistant quarantine physician of Baltimore. He was assistant-surgeon of the Fifth Maryland Regiment during the Spanish War and had charge of the infectious disease hospital of that command, in Florida.

For the week ended March 24, there were 56 deaths from pneumonia, 36 from consumption, 15 from Bright's disease, 14 from heart disease, 9 from bronchitis, and 12 from old age in this city. The rate per 1000 was 22.10, being 18.30 for whites and 44.66 for colored.

MEDICAL REGISTRATION ACT.

Judge Henry Page, at Annapolis, has written the opinion in the case of Ferdinand M. Scholle vs. State of Maryland. The appellant was indicted for unlawfully practicing medicine and surgery in Baltimore without being registered. The validity of the medical practice acts, 1892, chapter 296; 1894, chapter 217, and 1896, chapter 199, was involved. [These are the acts at present controlling medical practice in this state, and under which all candidates for practice must have had a three years' course of instruction, and must stand an examination before one of two separate boards—a regular medical board appointed by the Medical and Chirurgical Faculty of Maryland, and a board appointed by the Homeopathic Medical Society. Several amendments to the act are now before the legislature, one requiring a four years' course of instruction, championed by the Medical and Chirurgical Faculty; another exempting, from the examinations, the graduates of Maryland medical colleges conforming with the requirements of the Association of American Medical Colleges.] These statutes, the court says, are the final results of a series of successive enactments which have created a well-defined system for the regulation of medical practice in the state. The act exempts from its operations, "commissioned surgeons of the United States Army, Navy or Marine-Hospital Service; physicians or surgeons in actual consultation from other states, or persons temporarily practicing under the supervision of an actual medical inspector." The appellant held these exceptions to be unreasonable, and that they rendered the whole act void under the fourteenth amendment to the Constitution of the United States as an infringement to the right of equality. The Appellate Court finds the act valid, and finding no error in the rulings below, affirms the judgment of the criminal court in favor of the State.

ILLINOIS.

Dr. George N. Kreider has been appointed house surgeon to the Wabash Hospital, Springfield.

Dr. W. F. Harris, Ferris, is a candidate for state senator from the twenty-eighth senatorial district.

Dr. Z. Roleau, Manteno, has been elected president of the Kankakee Board of Pension Examiners.

According to the report of the secretary of the Quincy Board of Health the mortality during the month was 47.

Chicago.

Dr. Otto Simon, superintendent of University Hospital, Heidelberg, and Dr. Ernst Lobstein, visited this city last week on a tour of investigation of American hospitals.

Easter offerings in all the Presbyterian churches of the city will be devoted to the needs of the Presbyterian Hospital. It is desired to raise $20,000 for the benefit of this institution.

Dr. Daniel R. Brower has accepted the invitation of the Faculty to deliver the address to the graduating class of the medical department of Georgetown University, D. C., on May 21, 1900.

The medical inspectors of schools examined 5593 pupils the past week. Of these, 300 were excluded on account of being infected with contagious diseases. The total examinations for the month were 24,924, total exclusions for the month, 1333.

MORTALITY STATISTICS.

According to the weekly bulletin of the Health Department the mortality for the month of March, notwithstanding the great increase in the number of deaths during the last two weeks, is only 304 in excess of the corresponding month of 1899, computed on the Department's minimum estimate of population, to wit, 1,750,000, the death-rate is 1.45 per 1000 of population—equal to an annual rate of 17.12 per 1000.

REORGANIZATION OF RUSH MEDICAL COLLEGE.

The following faculty changes have been made in addition to those noted in The Journal of March 24, p. 760: Henry M. Lyman, M.D., becomes vice-president; Elmer R. Irwin, M.D., is appointed assistant in the department of anatomy; Edward P. Lyon, Ph.D., of the Bradley Polytechnic Institute, Peoria, to be assistant professor of physiology; Frank Hacking, M.D., Ernest L. McEwen, M.D., and Oscar T. Roberg, M.D., assistants in the department of chemistry; Arthur R. Cushny, M.D., University of Michigan, professor of pharmacology and head of the new department of pharmacology and materia medica: Charles A. Wade, M.D., reappointed associate. Fred T. Hollenbeck, M.D., promoted to associate, and F. A. Sprague, M.D., appointed assistant, and Chas. J. Rowan, M.D., reappointed fellow in the above department: H. Gideon Wells, M.D., promoted to an assistantship, and Theodore Tieken, M.D., appointed to a fellowship in the department of pathology. Bertram W. Sippy, M.D., is promoted to an assistant professorship, F.S. Churchill, M.D., to an instructorship, and James A. Harvey, M.D., assistant to an associateship in the department of medicine. D. W. Graham, M.D., is promoted to an assistant clinical profesorship, E. J. Senn, M.D., to an instructorship, and Albert B. Keyes, M.D., to an associateship in the department of surgery. C. E. Paddock, M.D., is appointed assistant clinical professor, Henry F. Lewis, M.D., is promoted to an associateship, and Palmer Findlay, M.D., made an assistant in the department of obstetrics and gynecology. Otto P. Freer, M.D., is promoted to an instructorship, Joseph F. Dolamore, M.D., and George A. Torrison, M.D., to associateships, and John C. Williams, M.D., is appointed to an associateship in the department of diseases of the chest, throat and nose. Cassius D. Wescott, M.D., and William H. Wilder, M.D., are promoted to assistant profesorships. Elmer A. Lawbaugh, M.D., assistant to an associateship, and Robert A. MacArthur, M.D., to a clinical associateship; L. E. Schwartz, M.D., Cassius C. Rogers, M.D., and George E. Shambaugh, M.D., are appointed to assistantships in the department of ophthalmology and otology. Frank Hugh Montgomery, M.D., assistant professor, is promoted to an associate profesorship, and Alfred Schalek, M.D., is appointed to an associateship in the department of diseases of the skin, genito-urinary and venereal diseases. The position of anesthetizer to the surgical clinics is established, the incumbent of this position to have the rank of an instructor.

OHIO.

An anti-expectoration crusade has been inaugurated in Hamilton.

The annual report of the health officer of Mount Vernon shows that there were 72 deaths during the year.

A bill has been introduced in the legislature requiring that instruction in physical culture, with especial reference to the effect of alcoholic stimulants on the body, shall be given in the public schools of the state and at teachers' institutes.

YOUNGSTOWN'S SMALLPOX.

The last smallpox patient was discharged from the Youngstown isolation hospital March 26. For nearly four months the Mahoning Valley Hospital and the pest-houst have been in quarantine on account of smallpox. During this period twelve patients were treated, with no fatalities.

Cincinnati.

The Bethesda Hospital and Deaconess Home has received $2000 of interest-bearing stock from an unknown donor.

HEALTH ORDINANCE.

At a recent meeting of the City Council, an ordinance was passed prescribing additional duties for the several district physicians. They are required to report to the health officer all cases affecting the health of the city, and act as deputy health officers in enforcing all laws relating to the sanitary condition of the city.

MEXICAN PHYSICIAN VISITS THE CITY.

Dr. R. H. L. Bibb, Saltillo, Mexico, chief surgeon of the Mexican National Railroad, is in the city in the interests of the Mexican Government. It is the intention of the government to erect four large, modern hospitals in connection with their railroad system, and Dr. Bibbs is making a tour of the larger American cities for the particular purpose of studying the construction and administration of the municipal and private hospitals. The Doctor is American-born.

Cleveland.

During the four weeks ended March 24, there were 85 deaths from pneumonia.

A number of physicians have inaugurated a movement to secure a new hospital to be located on the west side of the city.

Dr. Charles H. Clark, of Stark County, has been appointed to the staff of the Government Hospital for the Insane.

KENTUCKY.

Louisville.

The annual commencements of the Louisville Medical College and the University of Louisville were held on the 26th ult. There were eleven graduates from the former and thirty from the latter's medical department.

The Louisville College of Dentistry will, after the conclusion of the present session, sever its connection with the Hospital College of Medicine, these two schools being the medical and dental departments of Central University. The College of Dentistry will be run as a separate institution.

The class of 1894, medical department of the University of Louisville, has just held a most successful reunion. The president of the class is Dr. Vernon Robbins, and the Secretary, Dr. Leon L. Solomon, both of this city.

MASSACHUSETTS.

BOSTON CITY HOSPITAL.

The annual report of the superintendent of the south department of the Boston City Hospital shows that 2677 patients were treated in that institution during the year. It is recommended that a separate pavilion for the treatment of measles be established as there are at present no means for the isolation of such cases in the hospital.

PROPOSED LABORATORY.

The Lynn Board of Health is considering the establishment of a bacteriologic department with a well-equipped laboratory and a trained chemist. Under the present system the board pays nearly $1000 a year to outside parties for bacteriologic examinations. It is thought that the Board would be better able to guard against disease at a smaller expenditure with a laboratory of its own.

CONNECTICUT.

On account of the decreased ice crop, the health authorities of the state have made preparations to protect consumers against dishonest dealers, and are planning a campaign against impure ice.

DELAWARE.

The annual report of St. Michael's Day Nursery and Hospital shows that the receipts were $3653, and the expenditures $3441 for the year.

DELAWARE HOSPITAL.

According to the annual report of Delaware Hospital, Wilmington, 462 patients were treated there during the year. The receipts were nearly $11,000, and the expenses about $9000. The sum of $10,000 is needed for the erection of a new building, of which $9000 has been subscribed.

WISCONSIN.

Dr. Edgar C. Barnes, Ripon, has been promoted from the rank of first lieutenant to that of captain, in the National Guard of Wisconsin.

SCARLET FEVER EPIDEMIC.

A meeting of the Racine Board of Health was held March 26, for the purpose of investigating the cause of a sudden scarlet fever epidemic in which twelve cases appeared simultaneously in a certain locality. It was learned that two children of a dairyman had been ill with the disease, and that he had supplied milk to eleven of the families where the disease had appeared.

IOWA.

COMMENCEMENT EXERCISES.

The commencement exercises of the medical department of the Iowa State University, Iowa City, were held March 28. There were eighteen who received the degree of M.D. Dr. George H. Simmons, Chicago, delivered the faculty address. After the exercises a banquet was served, on which occasion a handsome chair was given by the faculty of the medical department to the Dean, Dr. W. D. Middleton, in commemoration of the completion of his thirty years' connection with the medical department of the University. The Board of Regents passed a resolution raising the time necessary for attendance for the M.D. degree, after 1902, to four years of nine months each. At the present time it is four years of seven months each.

KANSAS.

KANSAS MEDICAL COLLEGE.

The tenth annual commencement of the Kansas Medical College was held in Topeka, March 22. The general address to the graduates was delivered by the Governor, W. E. Stanley, and the faculty address by Dr. B. D. Eastman. After the exercises the faculty tendered a banquet to the 27 members of the graduating class.

LOUISIANA.

New Orleans.

The commencement exercises of the medical department of Tulane University will be held Wednesday, May 2. Dr. J. Birney Guthrie will deliver the valedictory.

Dr. Jules Lagard has been appointed demonstrator of anatomy, New Orleans College of Dentistry, vice Dr. L. Perrilliat, resigned.

GEORGIA.

The auxiliary association of the Grady Hospital at Atlanta has inaugurated a movement toward the erection of a home for nurses in connection with that institution.

COLORADO.

ASSOCIATION WITH CONSUMPTIVES.

The Denver Board of Health is distributing, throughout the city, circulars of advice for the benefit of those suffering from tuberculosis. The circular states that "consumptives may be associated with as freely as though they were well, if they take due care; it is not the consumptive, but the careless consumptive, who is the source of danger.

UTAH.

Dr. J. E. King, health commissioner of Salt Lake City, has issued a circular relative to scarlet fever, for the information of parents and children, in order that they may exercise greater caution in preventing its spread, by prompt isolation and quarantine.

CALIFORNIA.

Arrangements are being made for a new hospital building at Pasadena. Six capitalists under the lead of P. D. Armour, have donated $12,000 toward the enterprise.

An ordinance has been passed by the San Francisco Board of Supervisors, making it unlawful to inter bodies within the city and county limits after Aug. 1, 1901.

The San Jose veterinary inspector has issued a notice to all dairymen supplying milk within the city limits that all cows must be inspected and tested for tuberculosis. Inspectors will be appointed and the work will begin at once.

HOME FOR CONVALESCENTS.

By the will of the late Anna S. C. Blake, Santa Barbara, her home place is to become a home for convalescents. She also bequeathed $80,000 for its maintenance. It will be under the direction of Dr. Philip King Brown of San Francisco, who will make monthly visits, and, during his absence, under the supervision of Drs. C. E. Vaughn and Robert MacKinlay of Santa Barbara.

LEPER IN LOS ANGELES.

A Chinese leper having been discovered in Los Angeles, as noted in these columns last week, the Board of Health—as it is impossible to properly isolate and care for such persons at either the city or county hospital, as most of the patients have contracted the disease in other countries, and as the facilities for caring for lepers are better in the Hawaiian Islands than can be provided in this country—has passed a resolution in which the "Board urges and requests the Senators and Representatives of California to secure the enactment of legislation by Congress which shall provide for the transportation of lepers from this country to the Hawaiian Islands, and for their maintenance there at the expense of this Government.

SAN FRANCISCO PLAGUE.

The animals inoculated by cultures obtained from the bodies of the last three suspected cases in the Chinese quarter have all died, but as these bodies were all in a rather bad state of decomposition at the time they were found, the specific germ could not be satisfactorily isolated from the putrefaction germs which were found as the result of the inoculation. Cultures were made from these animals and others inoculated from these cultures. [*Telegraphic advices as we go to press*, April 4, announce that these all died, and, owing to mixed infection, the post-mortem results were vague. The Board of Health thinks the first of these three cases was one of plague, but is doubtful about the others. There are no more suspected cases to date. A most rigid sanitary inspection is being made of the Chinese, and also of the Latin, quarter of the city, which is contiguous to it.—Ed.

CANADA.

The National Sanitarium Association will erect at Gravenhurst, a building for patients who are unable to provide for their own support.

The Ontario Government will equip a laboratory at Gravenhurst for the investigation of tuberculosis.

It is expected that the Dominion Government will shortly equip and dispatch a field-hospital to South Africa.

Montreal has been having an experience with la grippe. The epidemic is of a mild type, but quite extensive in its prevalence.

Another osteopath has been unearthed in Toronto; and "Dr." Dillabough will stand trial at the coming session of the assize court for practicing medicine without a license.

In a paper read before the N. S. Branch of the British Medical Association, Dr. George L. Sinclair, late superintendent of the Nova Scotia Hospital for the Insane, reported observations on thirty-one cases of hematoma auris, eight occurring in female immates. His observations extended over many years.

The Cape Breton Medical Society recently passed a resolution calling for a general vaccination in that section of the Dominion.

Legislation has been introduced into the local parliament of Nova Scotia providing for an expenditure of $15,000, toward the erection of a provincial consumptive sanatorium.

It is understood that the Ontario Government will bring in legislation providing for the establishment of sanatoria for consumptives throughout the province, and will also grant aid to those municipalities that deem it necessary and wise to establish these institutions.

Contributions to the proposed free consumptive sanitorium for Toronto have not been coming in very fast. Only about $1500 has thus far been received. The promoters have been asking the city for 50 cents a day for each patient for six months, but the medical health officer has reported adversely to this and also to the building chosen for the hospital.

MEDICAL MATTERS, MILITARY.

The militia orders, issued March 30, require the following qualifications as necessary for appointment to the army medical staff: Officers who have been in charge of a permanent unit for ten years or over; officers who have obtained proficiency certificates at one of the following training schools: 1. The Royal Army Medical Corps Depot, Aldershot, England. 2. The Volunteer Ambulance School of Instruction, London. 3. The Canadian Militia Army medical training schools. Officers who have served in the army in the field, as medical officers, may also be considered eligible. Instructions are also issued in regard to the annual drill of bearer companies.

CONCERNING ONTARIO PROVINCIAL UNIVERSITY.

The excitement concerning the Mackay bill, noted in these columns last week, continued all week. Both the teaching medical faculties in Toronto have held mass meetings of their staffs, graduates and undergraduates; and as a result each has put itself on record before the profession and the public of the province by resolutions, embodying their views. The resolution of Trinity Medical College approves of the bill, while that of the medical department of the University earnestly protests against it, on the ground that it abolishes the medical faculty of the University, that it practically takes the control of the medical examinations of the University and gives it to private corporations teaching medicine; that it disfranchises 1800 graduates of medicine of the University of Toronto and gives representation in the senate only to the private corporations teaching medicine.

MONTREAL CIVIC HOSPITAL.

The present civic hospital of Montreal seems to be in a bad state. During the past four years $20,000 has been expended on the heating apparatus alone, and last summer another $6000, mostly for the same purpose; but it would seem all to no avail. The health officer admits that the institution is not fit to properly house patients, that it is impossible to heat it, and that frequently throughout the winter months the patients had to be removed from ward to ward in order to keep them from being chilled. The hospital authorities could not burn coal enough to keep the place at the temperature it should be. The city has recently arranged for a new civic loan of $300,000, and it is proposed to enter a request for $50,000 to be expended on the erection of a new civic hospital on the pavilion plan. The old one has been the cause of more than one hospital scandal through incessantly requiring repairs. Some years ago the city was put to the expense of having plans prepared for a new civic hospital to cost $200,000. This alone cost the city $6000, and raised such a row that the proposals were at last abandoned.

Correspondence.

The Reductio ad Absurdum of Medical Legislation in the State of Michigan.

Detroit, Mich., March 16, 1900.

To the Editor:—For several years past two very definite opinions on the above-named subject have been held and repeatedly expressed by the writer in terms which could not be regarded by any one as ambiguous. One is that a righteous and efficient law to regulate the practice of medicine in Michigan has hitherto been and now is an *unattainable Utopian* consummation the "viability" of which ceases at the stage of "most devoutly to be wished." The other is that the methods, devices and expedients to which members of "the profession" have stooped in their frantic efforts to overtake and seize hold of this "will o' the wisp" have been not only futile and vexatiously disappointing but to the last degree discreditable and degrading. In the summer of 1896 I ventured in a short series of open letters in The Journal, to implore my professional brethren to reconsider their openly-avowed policy of indiscriminate and injudicious coalition, compromise and "unholy alliance," and to assume and maintain an attitude of honest, dignified, resolute independence, trusting to the inherent justice of their cause and to the overwhelming power inevitably derived from the actual results of honest, patient, scientific efforts carried forward under the all-embracing and inspiring moral teachings of the *Code of Ethics* of the American Medical Association.

One avowed member of the regular profession, who is also recognized as an active worker in the domain of politics, in reply to my appeal, is on record in your columns as saying, over his own signature: "I am happy to say that it is the overwhelming sentiment of all regular practitioners, of all so-called homeopaths, and of all the quacks of this state that the further influx of charlatans and quacks should be checked." Again, the same individual, as the champion of medical legislation for the protection of the people, etc., commits *felo de se* in the following utterances printed in the same communication: "*It will give the young man a chance by preventing competition,*" and "It makes no difference to Dr. MacLean or *myself how many or how few quacks there are in Michigan, but it does make a difference to the new beginner*" (italics mine).

What was that remark about "The Public," attributed to a late railroad magnate?

While the advocates of a medical law at any price were wrestling with the legislature and the army of quacks at Lansing, I made, through the columns of the *Detroit Free Press* (March 24), a last final appeal for what I deemed the honor and highest interests of scientific medicine. I venture to quote here the closing paragraphs of that appeal:

> I yield to no man living or dead or yet to be born in the matter of love and loyalty to the noble profession of which I have the honor to be a humble member, and therefore it is that in all sincerity and in true spirit of devotion to its best interests, *I implore my dearly beloved and highly honored brethren* to stop now and forever all their efforts in the direction of medical legislation.

Stop bowing the knee to Baal. Renounce now and forever all "unholy alliances," all irregular and quackish methods of curing the professional diseases which at present so cruelly afflict our people. "Better choose the ills we have than fly to others we know not of."

One, and only one, honorable, wise and defensible course is open to true-hearted, humanitarian devotees of the great profession of medicine, and that is to gird up our own loins, cleanse our own Augean stables, clear our own skirts, and take to ourselves the scriptural injunction, "Let your light so shine before men that they may see your good works." Devoting all our efforts and aspirations in this direction we will find little time and less inclination for lobbying at Lansing, and our aims and ambitions on behalf of suffering humanity will be achieved more quickly, more certainly and more triumphantly than in any other way. "Straight is the gate and narrow is the way which leadeth unto life."

Any law creating a composite board of state examiners would, in my humble opinion, be found to be a bad law, and if advocated by the "honest doctors" it would surely be bad policy and unpardonable ethics.

If the opinions here declared prove unpleasant reading and unpalatable doctrine to any of my brethren whose interests I have sincerely at heart and whose friendly regard I prize above all earthly possessions outside of my own fireside circle, all I can say is that they were really not volunteered, but urgently solicited, and they are honestly stated.

These and all words of warning uttered in the true spirit of love and loyalty to my brethren in Michigan were disregarded. That heterogeneous, conglomerate, nondescript "curio," the Michigan Medical Legislation League, combining in itself every power of darkness and deviltry by which the lives, limbs, health and purses of our citizens are menaced, succeeded in log-rolling a bill through the legislature, and the Governor signed it.

What the net result of all this ill-conceived and misdirected effort has amounted to is set forth by an independent, intelligent and in every way competent eye-witness, in the following editorial (italics mine) from the *Detroit Free Press* of March 13.

A FARCICAL SITUATION.

Every effort being made to purge the medical profession in Michigan of quacks, charlatans and false pretenders is to be applauded. Any output of a "diploma mill" is properly under suspicion and wherever evidences of incompetency or the want of proper credentials appear, the most careful investigation is demanded. The state medical registration board should do everything possible within the scope of its authority to uphold a proper standard of professional worth, even to resolving doubts in favor of the public safety.

Yet the very fact that this is true accentuates the woeful deficiency of the laws bearing upon the attempted reforms. As a rule those attempting to practice medicine without reasonable knowledge of the science to which it pertains, are dangerous and unprincipled men. Otherwise they would not risk human life and commit an occasional murder just as a money-making business.

If the law ousts them from the profession they disgrace they would have no compunction in resorting to some other alleged method of healing. And here the law is without right of interference. They do not pretend to be medical practitioners, do not have to be registered and are privileged to kill or cure as luck may favor them. They may have far less knowledge than a good veterinary, the average nurse or the mother who has raised a family, but they may treat the most deadly maladies in their most acute stages by the laying on of hands, long-distance mummery, incantations, horse-shoe magnetism, telepathy or telephone.

When such a state of affairs is aggravated by the fact that parents are not required to call medical attendance for their children when sick, *and when it is remembered how much money Michigan has paid for the making of laws not worth the paper they were printed on, public sentiment can not but be deeply incensed at the inefficiency of those who legislate for the "good" of the state.*

Finally, permit me to say that this communication, so far from being instigated by any feeling of triumph, much less of revenge on my part, is written in a spirit of sadness and chagrin, and at the same time in vindication of opinions and acts which, however they may have been misjudged or misrepresented, have in every instance been suggested and animated by that spirit of loyalty and devotion to the welfare of my profession which has been from first to last the guiding and controlling article of my professional creed. But above all my most vital incentive has been to awaken if possible the scientific doctors of Michigan (in anticipation of the approaching election), to the imperative necessity of guarding against the pernicious morbific influences and tendencies which in the past have brought so much of humiliation and disaster to the precious and holy interests which it is their highest duty and noblest ambition to promote and protect to the best of their ability, and by every honorable means in their power.

Donald Maclean, M.D.

Some Remarks in Reply to Dr. H. A. Kelly's Article on "Ureteral Calculus."

To the Editor:—In The Journal of March 3, Dr. H. A. Kelly reports, as entirely new, the diagnosis of a ureteral calculus by means of a wax-tip bougie, and he closes with the words: "I am not aware that ureteral calculus has ever been assisted to escape in this way before." I am ready to admit that the removal of a stone from the ureter is not an old practice, that the literature on the subject is of more recent date, and does not cover a great many cases, but the practice is not unique and the case is not a singular one, and I am very much surprised to see the statement propounded by a gentleman as well read as H. A. Kelly. Kolischer presented the first case of this kind to the Vienna Medical Society, about two years ago. The stone was found impacted in the left ureter, several inches above its vesical opening, the impaction and the exact localization of the concrement having been determined by a metal-tipped ureteral catheter. Injection of 30 c.c. of sterile vaselin-oil freed the stone and brought it down into the bladder, from where the woman passed it spontaneously through the urethra after an hour. The second case was demonstrated by L. Casper in the Berliner Medical Society, a few weeks later. This time the obstruction consisted of an agglomeration of uric acid crystals, which were distinctly felt and crumbled by the ureteral sound; the fragments were spontaneously discharged in the urine following the withdrawal of the sound. Both of these cases are described in L. Casper's text-book of cystoscopy. published in 1899. (Handbuch der Cystoscopie, von Dr. L. Casper, Leipsic, 1898, pp. 170 and 194.)

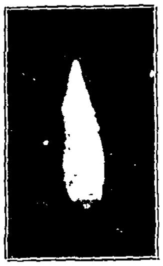
About a year ago Casper presented, before the Berliner Medical Society, his second case of this kind, in which the impaction was followed by reflex anuria and ureter catheterization; vaselin-oil injection removed the obstruction almost instantaneously, followed by a speedy recovery of the patient. (*Berliner Klin. Woch.*, 1899.)

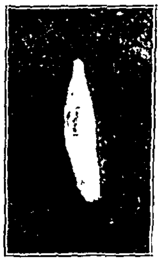
In the meeting of the Chicago Medical Society of March 8, 1899, I exhibited a patient and the stone which I had removed by ureter catheterization. The stone obstructed the left ureter at a distance of about five inches from its vesical end. Immediate relief followed the loosening of the concrement, which the patient spontaneously passed the next day. The accompanying picture illustrates the actual size and shape of the uric acid stone. The case is also interesting, as the configuration of the concrement would rather preclude the possibility of its spontaneous discharge through the male urethra.

As stated before, the literature on this subject is not abundant with cases on record. Bu just for this reason, every new report is the more valuable on this but recently developed field of bladder and kidney surgery, and it is therefore not only permitted, but also benefiting the advancement of the subject, to ventilate such a report by analyzing and discussing it.

I can not comprehend why Kelly injected 6 c.c. of a 1 per cent. cocain solution directly into the ureter and into the surrounding tissue through the vaginal wall and on it desired to instillate a eucain solution into the ureter through the cystoscope. If Dr. Kelly believes in the harmlessness of the eucain—the contrary of which is proven by Reclus, Kolischer and others—then I can not conceive what has induced him to inject cocain, a noted poison, from outside into the tissues, the most dangerous form of its application. Notwithstanding the danger connected with cocain injection even in mild concentration, it is, particularly in women, not necessary to use local anesthesia for cystoscopy or ureteral sounding, if one uses the Nitze or Brenner instrument and exercises delicacy in introducing the cystoscope and the ureteral catheter. It is one of the drawbacks of the Pawlik-Kelly cystoscope that it requires the painful dilation of the urethra. I also do not agree with his method of forcible dilation of the vesical end of the ureter where, as it appears from his description, he had found a ureteral stricture simply from the appearance of the orifice. Ureteral strictures, by the way, are extremely rare—spasmodic contractions are frequently pronounced as such—and ought to be gradually dilated by sounds or catheters of increasing caliber.

It is not very plausible that the introduction of a wax-tipped bougie for feeling and localizing the stone as practiced in this case complies with a long-felt want or means a progress. Ureter stones, like bladder concrements, are very often covered with a thick, viscid coat of mucus, pus and blood, so much that the surface becomes perfectly smooth and slippery and consequently will not produce a scratch-mark on the passing wax-tip. It will, therefore, not do to infer, from the non-appearance of the marks, the absence of a ureter stone with certainty without committing a serious mistake when some symptoms suggest the possible presence of it. Such symptoms are the typical pain, blood in the urine, sometimes in abundance, sometimes only in microscopic quantities, anuria of the obstructed, and occasionally of the fellow, ureter.





In which way the proposed mounting of wax particles on the catheter in certain intervals should facilitate the exact localization of the stone is not comprehensible. Scratch-marks appearing on one, two, or all of them will indicate that they have passed over a rough surface, but nothing else. But all these wax particles are unnecessary. In the four cases cited above, and in all the others diagnosed as impacted stones and operated on, the diagnosis and the location of the concrement were accomplished with ureter catheters, or sounds carrying a silver cap on the tip. The sensation communicated to the fingers holding the catheter when the latter meets the obstruction, and the resistance felt when the catheter passes it, taken altogether with all other symptoms, will hardly allow of an error.

In encountering a stricture in the ureter, an extremely rare occurrence, we also feel an obstruction, but the sensation to touch is different and the *unbloody* urine flows through the catheter long before the latter reaches the stricture. In cases of impacted stones the, as a rule, more or less bloody urine, commences to flow after the catheter has passed the obstruction.

The employment of the alligator forceps, to crush the stone, might give satisfaction in very small phosphatic concrements or in small agglomerations of various texture. Every one familiar with litholapaxy knows what powerful instruments are required to crush comparatively small uric acid stones or oxalates and will indorse my opinion about the limited value of the forceps. Notwithstanding this I consider such a procedure in the ureter too serious, on account of the probable and dangerous lesions it is likely to produce. If the stone is located near the renal pelvis, one has to try to push it back into the pelvis, from where its prompt removal by nephrotomy will be possible. If immovable, its location and localization will determine the route an operation has to take. But at any rate, especially when situated nearer to the vesical end, the vaselin-oil injection ought to be tried. to assist the escape of the stone before it is decided to do a cutting operation. For stones in the ampulla, pressing them into the bladder through the rectum in the male sex, through the vagina in women, has been recommended. also their removal with a forceps introduced through the operation cystoscope.

F. Kreissl, M.D.

Tumors of Mammary Gland.

Ann Arbor, Mich., April 2, 1900.

To the Editor: The concise statements made in the last two paragraphs of my paper on "Tumors of the Mammary Gland," in The Journal of March 31, admit of misinterpretation. My meaning is expressed more clearly as follows: The gross differential diagnosis of tumors of the breast in so far as the histologic variety is concerned is extremely uncertain and should not be taken as an operative guide. In a large proportion of cases it is not possible to distinguish the different forms. In nearly every case in which the histologic variety has been diagnosed in the gross, the microscopic examination has shown the diagnosis to be incorrect. The difficulty is obvious when the variety of pictures which one case may present is considered.

It seems reasonable from the data afforded by these eighty cases that the percentage of malignant tumors of the breast is so great as to warrant the statement that the most rational treatment in cases of tumors of this organ is immediate surgical interference.

Fritz Carleton Hyde, M.D.

Marriages.

Brown—Hillyer.—Dr. Philip King Brown and Miss Helen A. Hillyer, San Francisco, Cal., March 7.

Davis—James.—Dr. W. S. Davis, Marshall, Ind., and Miss Estella James, Brazil, Ind., March 18.

Dilly—Leavitt.—Dr. Frederick C. Dilly and Miss Mary E. Leavitt, Brazil, Ind., March 14.

Gessner—Hayes.—Dr. Hermann B. Gessner, demonstrator of Operative Surgery in the Medical Department of Tulane University, New Orleans, La., and Miss Jessie Hayes, Lake Charles, La.

Hill—Burt.—Dr. F. M. Hill, Falcon, Colo., and Miss Bettie Burt, Woodland, Cal., March 22.

Spooner—Ferguson.—Dr. Ernest H. Spooner and Miss Mary G. Ferguson, St. Louis, Mo., March 20.

Deaths and Obituaries.

John Alexander Lockwood, M.D., 89 years old, who spent thirty-three years in the service of the United States as surgeon in the navy, died on March 11, at the Newstead, Bournemouth, England. He was born in Delaware, and was the eldest son of William R. Lockwood. He was appointed assistant-surgeon on Feb. 8, 1832, was made surgeon on Oct. 13, 1840, and resigned on March 13, 1865. His last duty was at Mare Island navy yard, California.

John Cooper, M.D., Royal College of Surgeons, London, 1873, died at the Seney Hospital, Brooklyn, N. Y., March 29, aged 85 years. He was born in London, and for some time after his graduation he saw much of the British possessions in South Africa, as an army surgeon. For a number of years he was also a member of the New South Wales Medical Board. He settled in Brooklyn, N. Y., in 1858, after having lived in Huntsville, Ala., for about twelve years.

Henry B. Carpenter, M.D., died at his home in Rochester, N. Y., March 23, aged 36 years. He was graduated from the College of Physicians and Surgeons, N. Y., in 1886.

Anderson Moffett Newman, M.D., said to be the oldest male resident of Harrisburg, Va., died there March 29, in his 90th year. He was a native of Shenandoah County, and resided in Harrisburg since 1855. He leaves two children and a large estate. He was a member of the constitutional convention of 1850.

Franklin B. Hazel, M.D., Philadelphia, died March 28, aged 54. He was a graduate of the Medical Department of the University of Pennsylvania.

Henry D Hardacker, M.D., Chicago Medical College, 1875, died at his home in Hortonville, Wis., March 26, aged 53 years.

J. Q. Robinson, M.D., the oldest practicing physician in Westmoreland County, died at his home in West Newton, Pa., March 28, aged 83 years.

Joseph W. Harmon, M.D., Chicago, died March 29, aged 85. He was graduated from the Albany Medical College in 1845.

William Welsh Vibbert, M.D., died at his home in New York City, from cardiac disease, March 25, aged 27 years. He was a graduate of Trinity College and of the College of Physicians and Surgeons, N. Y.

William N. Yandell, M.D., Gross Medical College, Denver, Colo., 1888, died at El Paso, Texas, March 24. He was quarantine officer at that place and had been long in ill-health.

Charles J. Hall, M.D., University of Michigan, 1870, and Bellevue, 1882, died at Glen Cove, Queens County, N. Y., March 29 in his 54th year.

Daniel N. Taylor, M.D., Long Island College Hospital, N. Y., 1884, of Amsterdam, N. Y., died March 29, aged 44 years.

Winslow W. Skinner, M.D., died in Viareggio, Italy, March 29. He was lately a resident physician of Florence, Italy, and formerly of New York City.

Frank Wallick, M.D., Iowa College of Physicians and Surgeons, died at his home in Williamsfield, Ill., March 27.

William W. Rodman, M.D., Jefferson, 1844, one of the oldest physicians in Connecticut, died at his home in New Haven, March 30, aged 83 years.

Association News.

Excursion to Atlantic City.—Dr. I. Lawton Hiers, of Savannah, Ga., is arranging to have an excursion party of physicians, for the Atlantic City meeting, from Savannah to New York by ocean steamer.

Florida and National Department of Health.—The following resolutions have been received:

Whereas, There is established in the Agricultural Department of the United States Government, a Bureau of Animal Industry, by which certain of the brute creation is fostered in health, and protected against contagious disease transmission, vast sums of money being yearly appropriated for this purpose. and

Whereas, It is considered both fitting and in accord with progress and demands of the age, that attention should be paid by the General Government to the health of man, in whom the wisdom, intellect and wealth of the Nation resides, to protect against disease inhibition, to lessen mortality, increase longevity, and to environ the human race with all sanitary measures calculated to enhance the happiness and comfort of human life: Be it

Resolved, By the State Board of Health of Florida, that a National Department of Public Health is urgently demanded in the sanitary welfare of the Nation, and that the Board heartily indorses the Ray-Spooner Bills—Senate No. 1440, and House of Representatives No. 6618—now before Congress, as the only practical measure to accomplish the desired results in National Health Legislation; and be it further

Resolved, That the Hons. S. R. Mallory and J. P. Talieferro, Senators, and the Hons. S. H. Sparkman and R. W. Davis, Representatives, of Florida be earnestly and urgently requested to use their best efforts and influence in behalf of this legislation, and that a copy of this resolution be forwarded to our Florida delegation in Congress; and, also

Resolved, That the Governor of Florida be furnished with a copy of this resolution, and that he be likewise requested to favorably indorse and forward the same.

Jos. Y. Porter, M.D., State Health Officer, Jacksonville, Fla.

Adopted March 22, 1900.

Section on Neurology and Medical Jurisprudence.—In the following program the officers of the Section wish particularly to call attention of the readers of The Journal to the symposia on Traumatic Neuroses and on Hysteria, and to the unusually large number of papers of practical interest to those physicians not particularly interested in technical neurology and medical jurisprudence. The Hotel Brighton will be headquarters of this Section, and the meetings will be held there. There will be no morning sessions unless necessary for completion of the program.

FIRST DAY.

1. Address of Chairman—Hugh T. Patrick, Chicago.
2. Report of Seven Operations for Brain Tumors and Cysts—Herm. H. Hoppe, Cincinnati, Ohio.
3. Diagnosis of Apoplexy Without Motor Paralysis—William N. Bullard, Boston.
4. Case Resembling one of Raynaud's Disease, With Microscopic Examination—William G. Spiller, Philadelphia.
5. Legal Responsibility of Degenerates not Insane—David Inglis, Detroit, Mich.
6. Travel Therapeutics in Nervous and Mental Maladies—Richard Dewey, Chicago.
7. Post-febrile Insanities and Their Treatment—Frank P. Norbury, Jacksonville, Ill.
8. Cranial Injuries and Insanity, with Report of Case—Eugene G. Carpenter, Columbus, Ohio.
9. Medicolegal Relations of Opium Inebriates and Necessity for State and Interstate Statutes—T. D. Crothers, Hartford, Conn.
10. Morphinism from Standpoint of General Practitioner—T. J. Happel, Trenton, Tenn.

SECOND DAY.

11. The Nervous Diseases Caused by Trauma—Chas W. Burr, Philadelphia.
12. Nature and Symptomatology of Traumatic Neuroses—Harold N. Moyer, Chicago.
13. Traumatic Neuroses from the Standpoint of a Railway Surgeon—Arthur Dean Bevan, Chicago.
14. Medicolegal Relations of Traumatic Nervous Affections—Landon Carter Gray, New York City.
15. Analysis of Cases of Traumatic Neuroses with Special Reference to Prognosis—James J. Putnam, Boston.
16. Prognosis and Treatment of Traumatic Neuroses—Wharton Sinkler, Philadelphia.

Discussion to be opened by James Hendric Lloyd, Herm. H. Hoppe, and Francis X. Dercum.

17. Treatment of Neurasthenia—Daniel R. Brower, Chicago.
18. Certain Means for Relief of Neuralgia—W. J. Herdman, Ann Arbor, Mich.
19. Modern Treatment of Locomotor Ataxia—Curran Pope, Louisville, Ky.
20. Subject Unannounced—Francis X. Dercum, Philadelphia.

THIRD DAY.

21. Diagnosis of Hysteria from Organic Disease of Brain—Chas. K. Mills, Philadelphia.
22. Diagnosis of Hysteria from Organic Disease of the Spinal Cord and Peripheral Nerves—Frederick Peterson, New York City.
23. General Treatment of Hysteria—B. Sachs, New York City.
24. Technique of the "Rest Cure," with Indications and Contraindications for Its Use—John K. Mitchell, Philadelphia.

Discussion to be opened by C. W. Burr, John Punton and William G. Spiller.

25. Differentiation of Chorea and Disorders Simulating It—A. A. Eshner, Philadelphia.
26. Prophylaxis of Chorea—J. Madison Taylor, Philadelphia.
27. On a Certain Routine Treatment for Gouty Conditions—Frank R. Fry, St. Louis, Mo.
28. Combined Sclerosis of the Putnam-Dana Type Accompanying Pernicious Anemia—F. W. Langdon, Cincinnati, Ohio.
29. Aphasia: Report of Case—Guy Hinsdale, Philadelphia.

FOURTH DAY.

30. Subject Unannounced—J. Hendrie Lloyd, Philadelphia.
31. Migraine, with the Consideration of Heredity—D. J. McCarthy, Philadelphia.
32. True Epilepsy with Symptoms of General Paresis Engrafted Thereon: Report and Presentation of Case—E. Ferree Witmer, Philadelphia.
33. Involutional and Evolutional Types of Nervous Diseases—Ed. E. Mayer, Pittsburg, Pa.
34. Presentation of Some Specimens of Brain Tumor—Albert E. Sterne, Indianapolis, Ind.
35. Paranomia, with Report of Case—Chas. S. Potts, Philadelphia.

36. Hereditary Color-blindness—F. Savary Pearce, Philadelphia.

37. Pathophobia as an Element of Nervous Diseases and Its Treatment—John Punton, Kansas City, Mo.

38. Post-Anesthetic Paralysis—C. C. Hersman, Pittsburg, Pa.

39. The Insanities—William Francis Drewry, Petersburg, Va.

40. The Simplest Explanation of the Functions of the Nervous System—G. W. Drake, Hollins, Va.

41. Drug Habits—A. J. Pressey, Cleveland, Ohio.

42. A Study of Cerebral Syphilis, with Report of Case—Jas. H. McBride, Pasadena, Cal.

43. Case of Combined Aural and Gastric Vertigo, with Comments—G. W. McCaskey, Ft. Wayne, Ind.

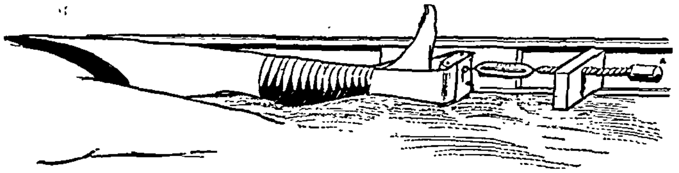
New Instruments.

An Improved Lateral Traction Splint for Fracture of Femur in Children.

BY WM. W. GOLDNAMER, M.D.

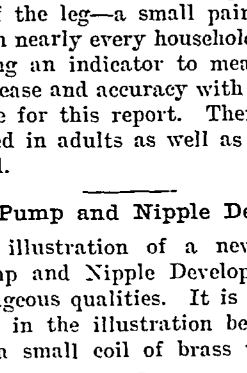
CHICAGO.

In the treatment of fracture of the femur in children, we are often confronted with the fact that there is a necessity of a change of scene for those little patients that will keep them more contented during their enforced confinement in bed, and also by the frequent changes prevent the liability, especially in hot weather, of pressure ulcerations, etc. The objection to the lateral splints that I have heretofore used is that the amount of traction in a given case was not known, so I have introduced between the traction screw—which is a long wooden screw from a joiner's "set-screw"—and the block of wood—to which is fastened the two adhesive strips which extend from the lateral sides of the leg—a small pair of spring balances, such as are found in nearly every household, for weighing packages, thereby having an indicator to measure the amount of force desired. The ease and accuracy with which it has worked has been my excuse for this report. There is no reason why this can not be used in adults as well as children, when such treatment is desired.



Breast-Pump and Nipple Developer.

We present an illustration of a new breast-pump—The Hoover Breast-pump and Nipple Developer—which seems to offer many advantageous qualities. It is small, the pure gum rubber tube shown in the illustration being but 2 inches in length. There is a small coil of brass wire in the tube to prevent collapse when strong pressure is necessary. The tube connects the glass portion of the pump with the air-chamber, and at the distal end of the latter a small exhaust-pump, 2 inches long, is attached. The air-chamber is 1 inch long, and the rubber tube ¼ inch in diameter. The breast-pump complete measures 9 inches in length.



Miscellany.

A Question of Ethics.—The Code of Ethics, adopted by nearly all the medical societies of our country, is founded upon honor, the honor of the individual practitioner and his honorable relations with reputable men and with the community. In this code there is no absolute command that one shall do or not do certain things. It considers man a free moral agent and so appeals to his manhood, his sense of honor with greater certainty of obedience to its tenets than if such obedience were the result of compulsion or dogmatic assertion. This spirit of integrity should therefore and does infuse our souls with professional pride and dominate our lives in an endeavor to maintain that respect and dignity which will lead the profession to live up to its noblest ideals. When one or several members of the profession in any community disregards this law by degrading his body, or mind, or his honor or that of his profession by public or private acts, it is the duty of the profession either individually or as an organized body to deprive that individual or individuals of all the rights, emoluments and respect that he has thereby forfeited. During the last ten years many cases of this character have occurred in our midst, and, that we may be explicit and impartial, we shall confine ourselves to those cases where the offense has been notorious, of a public character and where the punishment has been made public and been meted out not by individuals, but by bodies lawfully organized for the purpose of protecting our professional integrity. These several offenses are common property and the actors well known. The code of ethics of the profession requires that its adherents shall not consult with or meet in a professional way men who are not reputable and have therefore by their conduct forfeited the honor and respect of the profession they should love and cherish. It is to be regretted that many in our community have seen fit to so seriously violate the requirements, imposed by this code, that they can no longer be considered worthy and reputable physicians. Meeting these men in practice or consulting with them is therefore strictly forbidden to the regular profession. It is humiliating and degrading to know that men highly honored by the profession and the state are in daily communication and consultation with those, who have been censured by the state and local societies. This practice is growing common and is a serious wrong. We have often wondered how men can be so inconsistent as to preach and swear by the code on one occasion and in the next breath consult with those who have lost all rights to respect. In many cases no doubt the voices and votes of these very men have helped to condemn these physicians and yet they do not hesitate to mingle with them on all occasions both social and professional. As far as the social function is concerned they should be treated courteously and with due respect, but it is a matter of no idle moment when they meet with them professionally in the sickroom and the hospitals. Is there seemingly any reason therefore, why the average public should not look with some show of discourtesy and contempt upon the average physician? Can the advertiser and the quack be seriously blamed for the patronage conferred by an indiscriminating public while men are willing to debase and lower themselves? Shall the honor of our profession be daily impugned by the arrant and flagrant advertiser, even the worst class of abortionists, who are being allowed in our hospitals, public affairs, etc., where they must meet the members of our profession? Shall the code of ethics, our morals and dignity continue to be laughed at and hooted at by the quack of the community? This is not only degrading to our honor, but it is technically criminal that men of ability and of good standing should ever be ready to assist and help out of embarrassing positions those who in many cases are practicing medicine unlawfully. Is it possible that our sense of honor is gone and that the greed for money alone is left to stir and guide us on our way? Will not those in authority take some step to see that this degraadtion shall cease? Is there no means of preventing this shameful hypocrisy? Better have no code and no honor and make no protestations of honor if this is to be slurred at by physician and quack alike. Why punish a few for public advertising, when many lower themselves and the profession by overt acts equally reprehensible?

For this unfortunate condition there is but one remedy, self-respect. This is an obligation each one owes himself and his profession. A little encouragement of this attribute will tend to educate the people to appreciate the worthy and those endeavoring to uphold the professional standing on the highest plane. Such conduct as is here depicted is worse and far more flagrant than public advertising. It destroys the soul and honor of the professional body and the confidence demanded from the public, whom we are bound to honestly and faithfully serve.—*Occidental Med. Times,* San Francisco, March 1.

BOOKS AND PAMPHLETS RECEIVED.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interests of our readers.

BOOKS.

The Year-Book of the Nose, Throat and Ear. Edited by G. P. Head, M.D., Professor of Laryngology and Rhinology in the Post-Graduate Medical School of Chicago, and Albert H. Andrews, M.D., Professor of Otology in the Post-Graduate Medical School of Chicago. Price, $1.50. Chicago: Chicago Medical Book Co. 1900.

Scattered Leaves From a Physician's Dairy. A series of satirical sketches from real life, reflecting more or less on the men who control it, by Albert Abrams, A.M., M.D. (Heidelberg), F.R.M.S., San Francisco, author of "The Antiseptic Club," etc. Paper. pp. 60, with frontispiece. Price $.50. St. Louis, Mo.: Fortnightly Press Co.

Clinical Studies in Vice and in Insanity. By Geo. R. Wilson, M.D., Medical Superintendent, Mavisbank Asylum. Price $3. New York: The MacMillan Co. 1899.

Prescription Book of Infant Dietetics for Home Modification of Milk. By A. B. Spach, A.M., M.D., Chicago. Paper. Price $.50. Chicago Medical Book Co. Chicago.

Queries and Minor Notes.

PIGEONS AS MEDICAL MESSENGERS.

Elizabeth, Ill., *March 29, 1900.*

To the Editor.—To new readers of The Journal, who have country practice, it may be of interest to know that I have found, during three years' use, that homing pigeons as medical messengers can be made of great practical benefit. Two letters on this subject, published in The Journal, will be found in vols. xxx, and xxxii. To those not having access to these, I will be pleased to mail reprints published by The Journal, on receipt of request, with a stamp. Philip Arnold, M.D.

THE "MAD-STONE."

Fort Worth, Texas, March 9, 1900.

To the Editor.—Will you please tell me what is known about the "mad-stone" and its use in hydrophobia; its size and history? What are its therapeutic powers? Upon what principle does it work? Is it psychic or non-psychic? Respectfully,

J. E. P.

Answer:—The "mad-stone" is a rather indefinite article, according to our knowledge. It is an absorbent stone. Sometimes, we are told, it is a concretion, gastric or otherwise, which is placed over wounds with the idea that it will suck out the poison. The question as to its therapeutic powers is involved in the answer to the last two questions. The principle it acts on, we believe, is suggestion. No educated physician believes in its genuine therapeutic powers.

"CHRISTIAN SCIENCE."

Boston, March 24, 1900.

To the Editor.—Having read in some medical journals about "Christian Science," its history, "Mother Eddy's" history, etc., I intend to write a correspondence article for a European medical journal, on this subject. I can not, however, find the articles in my Association Journals, and take the liberty to ask you to send me the copies in which you have something on the subject. I think I read the articles in the American Medical Journal, which I am studying most thoroughly. Very truly yours, R H.

Answer:—There is a good exposé of "Christian Science" in the book, "Christian Science, an Exposition of Mrs. Eddy's Wonderful Discovery, Including its Legal Aspects. A plea for children and the helpless sick," by Wm. A. Purrington. (E. B. Treat & Co., New York. 1900.) It can be had through any book-seller. Other articles to be consulted are those of H. C. Dresser and Mrs. Josephine C. Woodbury, in the *Arena* for May, 1899, that of Dr. Edmund Andrews, in this Journal, March 18, 1899; with others scattered through medical journals, magazines, and newspapers too numerous to mention.

GERMAN AND FRENCH PUBLICATIONS.

Union Springs, Ala., March 29, 1900.

To the Editor.—My son, recently from the College of Physicians and Surgeons, New York City, is desirous of keeping up his knowledge of French and German acquired in his university course, and we desire to subscribe for two medical journals, one published in Paris, the other in Berlin, preferring that they shall be monthlies, devoted as nearly as may be to general medicine. We shall want also a French-English and German-English medical dictionary. Will you advise us both as to the medical journals and the medical dictionaries, and where we may subscribe for and obtain them.

C. H. F.

Answer:—The leading French and German journals are not monthlies, but there are one or two French ones that might meet the requirements, such as the *Archives Generales de Medecine* and the *Revue de Medecine.* The German journals on general medicine, that are not weeklies, are more apt to appear in parts or irregularly. For a German monthly, we would recommend *Schmidt's Jahrbuch,* which appears twelve times a year and contains abstracts of most of the current important medical literature of the continent of Europe, together with critical digests of the literature, etc., on certain subjects, in each volume. The latest German-English and French-English dictionaries, and probably therefore the best, are Treves and Lang for the German and DeMeric for the French. These are not expensive, being small. The French and German monthly journals are rather expensive.

PRACTICE IN WISCONSIN.

Chicago, March 26, 1900.

To the Editor.—Kindly inform me through The Journal how to register in Wisconsin and to whom to send my diploma.

Fraternally, Subscriber.

Answer:—The following is taken from the section on registration, in the Wisconsin law, providing for a State Board of Medical Examiners. "All persons commencing the practice of medicine or surgery in any of their branches, shall apply to said board at the time and place designated by them, or at any regular meeting for license so to do, and shall submit to an examination in the various branches in medicine and surgery, or to present to said board a diploma from a medical college that requires at least three courses of not less than six months each before graduation. And after the year 1904 at least four courses of not less than six months each before graduation, no two of said courses to be taken within any twelve months. The examination in materia medica, therapeutics and practice of medicine shall be conducted by the members of said board representing the school of medicine which the applicant claims to follow." The fee for examination is $10, but $5 when an examination is not required. The fee shall be paid by the applicant to the treasurer of the board. Any practitioner of medicine holding a certificate from any other state board imposing requirements equal to those established by the Wisconsin board, on presentation of the same with a diploma, may be admitted to practice without an examination, at the discretion of the board, on the payment of the fee. The secretary, to whom applications for forms, blanks, etc., should be sent, is H. M. Ludwig, M.D., Richland Centre, Wis.

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the *Adjutant General's Office, Washington, D. C., March 16-22, 1900,* inclusive.

Peter J. A. Cleary, lieut.-col., deputy surgeon-general, U. S. A., relieved from further duty at Fort McPherson, Ga., to report at San Antonio, Tex., as chief surgeon of the Department of Texas.

Edward T. Comegys, major and surgeon, U. S. A., from the medical supply depot, Savannah, Ga., to San Francisco, Cal., and thence to Manila, P. I., for duty in the Department of the Pacific.

Charles L. Heizmann, major and surgeon, U. S. A., from duty as chief surgeon Department of Texas, to San Francisco, Cal., and thence to Manila, P. I., for duty in the Department of the Pacific.

The following acting asst.-surgeons have been directed to proceed to San Francisco, Cal: Frank C. Baker, from Washington, D. C.; Leonard P. Bell, from Indianapolis, Ind.; Caspar R. Byars, from Columbus, Tex.; Joseph A. Collie, from William's Bay, Wis.; Robert M. English, from New Haven, Conn.; Bower E. Himes, from Fort Sheridan, Ill.; Luther P. Howell, from Washington Court House, Ohio; George L. Marion, from Elgin, Ill.; John N. Merrick, from Columbus, Ohio; John L. Norris, from Washington, D. C.; Conn R. Ohliger, from Canton, Ohio; Randell C. Stoney, from Charleston, S. C.; Henry H. Stromberger, from Washington, D. C.; Robert M. Thornburgh, from New York City; Edwin M. Trook, from Marion, Ind.; Josiah M. Ward, from Newbern, N. C. station for special temporary duty.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ending March 24, 1900.

Surgeon J. D. Caterwood, detached from the *Lancaster* and ordered to the Bureau of Medicine and Surgery, Navy Department.

Pharmacist F. Wood, retired from active service, March 20, 1900.

Asst.-Surgeon E. Thompson, detached from the *Celtic* and ordered to the *Nashville.*

Asst.-Surgeon M. N. Johnson, detached from the *Nashville* and ordered to the *Celtic.*

Asst.-Surgeon H. N. Haas, detached from the *Baltimore* and ordered to the *Don Juan de Austria.*

Asst.-Surgeon W. B. Grove, detached from the *Brooklyn* and ordered to the *Scindia.*

Asst.-Surgeon F. L. Benton, detached from the naval hospital Yokohama, Japan, and ordered to the naval hospital, Cavite, P. I.

Asst.-Surgeon J. S. Taylor, ordered to the *New Orleans.*

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the 7 days ended March 22, 1900.

Surgeon George Purviance, granted leave of absence for fifteen days from March 24.

Surgeon A. H. Glenan, to proceed to Port T[illegible] Wash., inspector of quarantines.

Asst.-Surgeon M. J. White, to proceed to [illegible]

Hospital Steward Chas. W. Stephenson, to [illegible] and report for duty and assignment to qua[illegible]

APPOINTMENTS.

W. Theo. Waas, appointed acting asst.-surgeon for duty at Fernandina, Fla.

Chas. W. Stephenson, of Ohio, appointed hospital steward.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague. have been reported to the Surgeon-General, U. S. Marine-Hospital Service during the week ended March 31, 1900.

SMALLPOX—UNITED STATES.

Illinois: Aurora, March 3-17, 7 cases; Chicago, March 17-24, 3 cases.

Indiana: Evansville, March 17-24, 6 cases.

Kansas: Wichita, March 17-24, 8 cases.

Kentucky: Covington, March 17-24, 14 cases.

Louisiana: New Orleans. March 17-24, 71 cases, 14 deaths.

Maine: Portland, March 17-24, 1 case.

Michigan: Detroit, March 17-24, 2 cases, 1 death.

Minnesota: Albert Lea, March 20, 2 cases; Anoka County, March 20, 15 cases; Butterfield, March 20, 1 case; Freeborn County, March 20, 15 cases; Lesueur County, March 20, 1 case; Northfield, March 20, 7 cases; Minneapolis, March 20, 42 cases; Rice County, March 20, 1 case; St. Paul, March 20, 6 cases; Watonwan County, March 20, 2 cases.

Nebraska: Omaha, March 17-24, 1 case.

New York: New York, March 17-24, 2 cases.

Ohio: Cincinnati, March 17-23, 1 case, 1 death; Cleveland, March 17-24, 10 cases.

Pennsylvania: McKeesport, March 17-24, 1 case, 1 death.

South Carolina: Greenville, March 17-24, 2 cases.

Utah: Salt Lake City, March 17-24, 6 cases.

Virginia: Millboro, Bath Co., March 16, 12 cases; Portsmouth, March 17-24, 1 case, 1 death.

Washington: Spokane, March 17-24, 2 cases.

Wisconsin: West Salem, March 21, 5 cases.

SMALLPOX—FOREIGN.

Austria: Prague, March 3-10, 3 cases.

Belgium: Antwerp, March 3-10, 3 cases, 1 death.

Brazil: Rio de Janeiro, Feb. 2-9, 25 cases, 22 deaths.

Canada: Montreal, March 26, 1 case.

Cuba: Santiago, March 14, reported.

Egypt: Cairo, Feb. 18-25, 3 deaths.

England: Birmingham, March 3-10, 2 cases; London, Feb. 24 to March 3, 7 cases, 1 death.

France: Lyons, Feb. 24 to March 3, 1 death.

Greece: Athens, March 3-10, 7 cases, 6 deaths.

India: Bombay, Feb. 13-20, 228 deaths; Calcutta, Feb. 3-10, 24 deaths; Kurrachee, Feb. 11-18, 12 cases, 6 deaths.

Mexico: Chihauhua, March 10-17, 3 deaths; City of Mexico, Feb. 25 to March 4, 68 cases, 24 deaths; Vera Cruz, March 10-17, 4 deaths.

Russia: Moscow, Feb. 25 to March 3, 6 cases, 4 deaths; Odessa, March 3-10, 7 cases, 1 death; St. Petersburg, Feb. 17 to March 3, 47 cases, 12 deaths; Warsaw, Feb. 17-24, 3 deaths.

Spain: Corunna, March 3-10, 1 death; Madrid, Feb. 24 to March 3, 7 deaths.

Straits Settlements: Singapore, Feb. 3-10, 1 death.

YELLOW FEVER—FOREIGN.

Brazil: Bahia, Feb. 17 to March 3, 2 cases, 1 death; Rio de Janeiro, Feb. 2-9, 16 deaths.

Colombia: Barranquilla, March 3-10, 2 cases, 2 deaths; Panama, March 3-20, 2 cases, 1 death.

Cuba: Havana, March 11-17, 1 death.

Mexico: Laguna, March 4, several cases, 1 death.

CHOLERA.

India: Bombay, Feb. 13-20, 1 death; Calcutta, Feb. 3-10, 40 deaths.

PLAGUE—INSULAR POSSESSIONS, U. S.

Hawaii: Honolulu, March 22, 1 death, 1 suspect.

Philippine Islands: Manila, to Feb. 13, 100 cases, 90 deaths.

PLAGUE—FOREIGN.

India: Bombay, Feb. 13-20, 641 deaths; Calcutta, Feb. 3-10, 106 deaths; Kurrachee, Feb. 11-18, 4 cases, 1 death.

CHANGE OF ADDRESS.

Dr. B. Bettman, from London, England, to 2522 Michigan Ave., Chicago, Ill.

Dr. G. Blech, from 1434 Michigan Ave. to 103 State St., Chicago.

Dr. C. Booth, from St. Louis to Carlow, Mo.

Dr. J. I. Byrne, from 923 Powell Street to Station D., St. Joseph, Mo.

Dr. A. L. Cowden, from Kansas City, Mo., to Olathe, Kansas.

Dr. C. C. Chapman, from Kansas City to Shelby, Mo.

Dr. W. E. Currie, from Topeka to Sterling, Kansas.

Dr. E. A. Crull, from 120 Barr St., to 4 E. Columbia St., Fort Wayne, Ind.

Dr. I. J. Dunn, from 13 E. 8th St. to 810 Peach St., Erie, Pa.

Dr. L. Fischer, from 187 Second Ave. to 65 E. Ninetieth St., New York.

Dr. A. Fricke, from 235 N. Sixth St. to 4724 Hazel Ave., Philadelphia, Pa.

Dr. T. A. Quattlebanns, from Winnsboro to Balesburg, S. C.

Dr. H. D. Gray, from Iowa City to Newton, Iowa.

Dr. J. P. Gish, from St. Louis to Wheeling, Mo.

Dr. J. M. Gedge, from 108 Stockton St. to 406 Sutter St., San Francisco, Cal.

Dr. A. R. Hull, from Oconomowoc, Wis., to Sharon, Iowa.

Dr. F. Hitts, from Kansas City, Mo., to Humbolt, Kansas.

Dr. M. H. Horn, from Topeka to Morrowville, Kansas.

Dr. S. D. Hosford, from 3411 W. 32d Ave. to 3419 W. 31st Ave., Denver, Colo.

Dr. A. B. Jensen, from Keokuk, Iowa, to Chilton, Wis.

Dr. F. A. Knight, from 2836 Chicago Ave. to Masonic Temple, Minneapolis, Minn.

Dr. C. O. Murrell, from 2324 Pine St. to 1322 Market St., St. Louis, Mo.

Dr. H. W. Morcom, from 701 Jackson Boul. to 618 W. Monroe St., Chicago, Ill.

Dr. E. W. Meis, from Iowa City to Dyersville, Iowa.

Dr. M. H. Mack, from 690 W. Madison St. to 3000 Indiana Ave., Chicago, Ill.

Dr. E. S. McKee, from 33 to 639 W. 7th St., Cincinnati, O.

Dr. D. L. McSwain, from Nocatee to Bartow, Fla.

Dr. I. J. Sexton, from 348 Ogden Ave. to 394 S. Marshfield Ave., Chicago, Ill.

Dr. X. Olsen, from Kansas City, Mo., to Green, Kansas.

Dr. A. O'Donnell, from 1212 Harrison St. to 704 Oak St., Kansas City, Mo.

Dr. W. T. Swink, from Nashville to Jackson, Tenn.

Dr. T. H. Stuckey, Jr., from 121 E. College St. to 124 W. Chestnut St., Louisville, Ky.

Dr. L. A. Snyder, from Chicago to Chicago Heights, Ill.

Dr. S. P. Vinyard, from 615 E. 8th St. to City Hospital, Kansas City, Mo.

Dr. J. W. Thomas, from Salem to Stayton, Ore.

Dr. J. A. Townsend, from St. Louis to Unionville, Mo.

Dr. A. D. Van Dyke, from Marysville, Pa., to Union Station, Baltimore, Md.

Dr. L. Woodruff, from Alton to 2805 W. Broad St., Columbus, O.

Dr. H. M. Williams, from Kansas City, Mo., to Emporia, Kansas.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

is published weekly, at 61 Market Street, Chicago, Ill. The subscription price is five dollars per annum in advance. Postage in the United States, Canada, Mexico, Guam, Porto Rico, and the Philippines, free; foreign postage, $2.50. Subscriptions may commence at any time. Volumes begin with the first issue of January and of July.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

The qualifications for membership require that the applicant be a member, in good standing, of a state or local medical society entitled to send delegates to the annual meeting of the American Medical Association. A list of these societies will be sent on request. Applications must be accompanied with a certificate showing that the applicant is a member of a recognized society, and should be sent with the annual dues—five dollars—to the treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago. Members receive the Journal free. Subscribers to the Journal may become members of the Association without expense if they are members of medical societies recognized by the Association, and those desiring to have their names transferred from the subscription to the membership lists should send certificates as above, with a receipt for their subscription to the Journal, covering the current fiscal year.

FISCAL YEAR.

The fiscal year of the American Medical Association is from January 1 to December 31; and the annual dues paid by a new member cover only the fiscal year, no matter at what time of year the membership is obtained. Those who pay their dues and join the Association at the annual meeting in June, for instance, pay only for the fiscal year which ends with the December following, and the annual dues for the following fiscal year are payable the succeeding January, at which time the treasurer sends a statement to each member. Such members, however, are entitled to the Journal for the full year, even though the membership be not continued.

PAPERS READ AT THE ANNUAL MEETING.

"Every paper received by this Association and ordered to be published, and all plates or other means of illustration, shall be considered the exclusive property of the Association. . . . The Board of Trustees shall have full discretionary power to omit from the published transactions, in part or in whole, any paper that may be referred to it by the Association or either of the Sections, unless specially instructed to the contrary by vote of the Association." (From Article V of the By-laws.)

NEWS.

Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

ORIGINAL PAPERS.

Articles are accepted for publication with the understanding that they are contributed solely to this journal, unless a definite understanding be had to the contrary.

COPYRIGHT.

Matter appearing in The Journal of the American Medical Association is covered by copyright, but, as a general thing, no objection will be made to the reproduction of anything appearing in its columns if proper credit be given.

CONTRIBUTIONS TYPEWRITTEN.

It will be satisfactory to all concerned if authors will have their contributions typewritten before submitting them for publication. The expense is small to the author—the satisfaction is great to the editor and printer. We can not promise to return unused manuscript.

Half-tones, zinc etchings and other illustrations will be furnished by the Journal when photographs or drawings are supplied by the author.

ADVERTISEMENTS.

Advertising forms go to press eight days in advance of the date of issue. Therefore, in sending in copy, time should be allowed for setting up advertisements and for the sending and return of proofs. Advertising rates will be made known on request.

CHANGE OF ADDRESS.

In ordering a change of address it is important that both the old and new address be given.

REMITTANCES.

Remittances should be made by check, draft, registered letter, money or express order. Currency should not be sent, unless registered. Stamps in amounts under one dollar are acceptable. Make all checks, etc., payable to "Journal American Medical Association," except those for annual dues. These should be made payable and sent direct to the Treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago.

The Journal of the American Medical Association

Vol. XXXIV CHICAGO, ILLINOIS, APRIL 14, 1900. No. 15.

Original Articles.

REPORT OF A SUCCESSFUL CASE OF EXCISION OF THE CECUM, WITH END-TO-END ANASTOMOSIS.*

BY FREDERICK HOLME WIGGIN, M.D.

PRESIDENT OF THE NEW YORK COUNTY MEDICAL ASSOCIATION; VISITING GYNECOLOGIST TO THE NEW YORK CITY HOSPITAL; SURGEON TO ST. ELIZABETH'S HOSPITAL, ETC.
NEW YORK CITY.

On February 5, I was called by Dr. D. R. Rodger, Woodbury, Conn., to see G. S., a married woman 54 years of age who gave a history of having had recurring attacks of appendicitis covering a period of ten years. About six weeks previously the patient and her physician stated that she had had a more severe attack than on any of the other occasions, the abdominal pain being greater, and the constitutional symptoms more marked than formerly. Since that time the patient had been unable to take nourishment, even in a liquid form, without suffering pain in the right iliac region, accompanied by severe and persistent nausea. Consequently she had accustomed herself to abstain from taking nourishment in any form for as long a period of time as possible. She was emaciated, was suffering from marked mental depression, her gums and tongue were much swollen and red, and there were various ecchymotic spots all over her body. At this time, her pulse-rate was 74 and her bodily temperature 99.4 F. On bimanual examination a tumor attached to the uterus and broad ligament, and extending up into the right inguinal region, was found. Operation was advised, and as soon as the necessary arrangements could be made, with the assistance of Dr. Rodger, of Woodbury, and Dr. A. A. Crane, of Waterbury, laparotomy was performed.

The incision was made over the right rectus muscle, the fibers of which were separated and the peritoneal cavity entered. The tumor proved to be contained in the cecum and appendix. The adhesions which bound this portion of the gut to the uterus and broad ligament and parietal peritoneum were carefully broken up and the portion of the intestine containing the tumor was brought outside the abdominal cavity, which was shut off by gauze pads. There were no enlarged mesenteric glands, but fearing a possibility of malignant disease it was thought best to divide the bowel on either side, some distance from the tumor. The mesenteric attachment was clamped off before the vessels were divided, after which the clamp was replaced by the operator's fingers, and the vessels were caught by means of forceps and ligated with little loss of blood, probably not over 1½ ounces being lost in the entire operation, including the abdominal incision. After the tumor had been removed the cut edges of the bowel were washed with a small quantity of a solution of hydrogen dioxid—12½ vol.—and the cut edge of the ileum was united to that of the descending colon by means of stitches passed from within the bowel through all the coats, and then through the bowel of the opposite side from without in, the knots being tied on the inside of the bowel, and thus bringing together broad surfaces of the peritoneum. The stitch used was the one whose utility was demonstrated by Maunsell. These stitches were placed about ⅛ of an inch apart, and carried all the way around, attaching the entire cut edge of the ileum to the colon. The caliber of the colon being greater than that of the ileum, a slit was left which was nearly closed by means of the same sutures as those which had been employed to unite the colon to the ileum, but finally a few Lembert sutures were employed to close what remained of the opening. A few Lemberts were also placed at different points over the line of union of the colon with the ileum, to insure the contact of the peritoneal coats at all points. The suture material used to unite the bowel was horse hair, and a No. 5 milliner's needle was employed. Before the bowel was returned to the peritoneal cavity the line of union was washed with a solution of hydrogen dioxid—12½ vols.—and then the abdominal cavity was washed out and filled with saline solution, and the wound in the abdominal wall was closed by means of sutures placed in layers.

The patient was returned to her bed in good condition at 5 p.m., and at 6:25 p.m. her pulse-rate was 72 and bodily temperature 99.7 F. Following the operation no morphia was given, as the patient was free from pain. She slept more or less during the night, and at 6 a.m., having no nausea, 3 ounces of milk and lime-water was given, and this was repeated an hour later. At 7 a.m. she was catheterized and a large amount of urine drawn off. On account of her bad general condition it was advised that an enema of one pint of saline solution be given twice daily. Her bowels moved twenty-seven hours after the operation, and the convalescence as far as the abdominal operation was concerned was uneventful, with the exception of a stitch abscess, but was prolonged and complicated by the bad general constitutional condition from which the patient was suffering, which was prior to operation and analogous to scurvy, as was demonstrated by the occurrence of a bloody vaginal discharge which began on the second day following the operation and continued for some time, and by the patient also having trouble with salivary glands, lungs, etc. Large quantities of foul fecal matter were passed by the patient during the convalescence, which from its decomposed odor must have been retained in the intestines for a long period of time.

In a letter dated March 14, Dr. Rodger informed me that the patient was looking well, eating and digesting her food satisfactorily, that her mouth and tongue had resumed their normal condition, and that she was up and about.

The tumor, which completely occluded the bowel, was referred to Prof. E. K. Dunham, of the New York University, Bellevue Hospital Medical College, for pathologic examination, and his report was as follows: "Sections of the specimen you brought here to-day, Mrs. G. S. show a chronic inflammatory process, but I can find no evidence of malignant growths. The muscular tissue of the intestine is infiltrated with round cells—and the portions of the specimen which do not contain smooth muscular tissue are composed of a dense fibrous (cicatricial) tissue which is also the seat of focal round-cell infiltration. In many places the vessels show chronic endarteritis partially obliterating the lumina. A small lymph node included in one of the sections gives evidence of chronic inflammation, but there is no indication of invasion with cells from a neoplasm."

---

*Read before the New York County Medical Association.

The chief points of interest in the case are: 1, the history of recurring attacks of appendicitis covering a long period of time, ten years; 2, the general condition of the patient, which indicated great bodily depression analogous to scurvy, due to the lack of proper nourishment, and to the retention for a long time of a large quantity of fecal matter; 3, the method of suture employed; 4, the small amount of blood lost by the patient during operation; 5, the early and constant use of saline enemas to improve the general condition of the patient; 6, the early administration of nourishment to the patient in considerable quantity; 7, the character of the tumor.

55 West Thirty-sixth Street.

REMARKS ON SERUMTHERAPY.*

BY EDWARD K. DUNHAM, M.D.

NEW YORK CITY.

I conceive it to be my function in this discussion to lay before you some of the theories advanced in explanation of the facts on which the practice of serumtherapy is based. It seems, at the present time, quite impossible to assign to any of these theories the value of well-established fundamental principles, but they are of use as working hypotheses which correlate numerous facts and enable the mind to include many details in a single general conception. It is through the employment of such general conceptions, suggestive in character, that experimental investigation is most easily furthered. They are a necessary part of the inductive method of exploring the unknown, but it is needless to say that the utmost caution must be exercised not to regard them as expressions of invariable natural relations until the most extended observation and experimentation have demonstrated that they possess this character. Only then can we assign to these working hypotheses the dignity of natural laws. I am, then, not in a position to present a statement of laws governing the phenomena which have led to the use of serumtherapy in the treatment of disease. I can only rehearse some of the ideas which have been advanced in explanation of those phenomena by investigators who have devoted themselves to their study.

The study of serumtherapy is primarily based on the observation that animals and man may possess or may acquire resistance to a given infection or intoxication. Bacteria or poisons which are capable of producing symptoms in some species or individuals, may entirely fail to produce such effects in other species or other individuals of the same species. In some cases this immunity is inherent to the species, being manifest in greater or less degree in all individuals. In other cases it must be acquired. This fact leads to a distinction between "natural immunity" and "acquired immunity." In addition to this distinction we must also separate resistance to infection from an insusceptibility to the action of poisonous substances.

In disease due to bacteria, it is generally believed that the symptoms occasioned are chiefly, if not wholly, due to toxic substances produced through the growth of the bacteria, either in some circumscribed part of the body or within the circulating fluids. The study of immunity is, therefore, in great measure, concentrated on the relation of the organism to poisons: a chemical problem.

The transfer of the study of many of the facts concerning immunity, from the domain of simple biology to that of biologic chemistry, renders some of the earlier explanations of immunity inadequate. Thus, the idea that by their growth bacteria consume all of certain food-stuffs necessary for their continued life (the "exhaustion" theory of immunity) was rendered untenable by the fact that immunity may be conferred on an animal by the injection of the poisonous products elaborated by the same bacterial species. This observation led to the "retention" theory, of immunity, in which the products of bacterial growth were believed to accumulate and prevent a further development of the bacteria.

This hypothesis had, in turn, to be abandoned when it was shown that these products were eliminated with a rapidity out of proportion to the duration of the immunity, and that their presence in the blood did not prevent the growth of the corresponding species of bacteria.

Another biologic explanation of immunity is based on the fact that many cells of the body, but chiefly the leucocytes, incorporate foreign particles within their cytoplasm and, in many cases, destroy them. The idea that bacteria gaining access to the tissues were destroyed by the devouring activity of such phagocytes, and that immunity depended on this activity, has long been the subject of somewhat bitter controversy. The weight of evidence appears to show that, while phagocytosis may be a factor in the destruction of bacteria, it is highly improbable that cells are capable of incorporating virulent bacteria and working their destruction. The preponderance of evidence favors the idea that phagocytosis takes place only *after* other influences have acted injuriously on the bacteria. The blood and lymph of the body are known to frequently exert such an influence, especially when freshly drawn. Although the point is still undecided, it seems not improbable that this influence depends on enzymes or ferments which have a solvent effect on the bacterial cell and its envelope, and that this action is closely related to the phenomenon of agglutination on which, for example, the Widal test as an aid to the diagnosis of typhoid fever is based.

The most philosophic theory of immunity that has as yet been advanced is Ehrlich's so-called "side-chain" hypothesis, which is based on a chemical theory of the action of poisons.

We know that the protein molecule is one of great complexity; that by its decomposition a vast number of organic substances can be obtained, some containing nitrogen, with others in which it is not present. The decomposition products derived from protein not only depend on its chemical constitution, but also on the character of the influences bringing about its cleavage.

The chemist expresses the constitution of such complex molecules by means of formulæ containing a nucleus of closely united atoms, to which he conceives other atomic combinations, or "radicles," to be more loosely attached. These radicles, when themselves of complex constitution, are designated as "side-chains," and are connected in various ways with the central nucleus which binds all the radicles together into a single, complex system of atoms. Since the side-chains themselves may be composed of central, compact, atomic groups, combined with numerous radicles, enormous molecules of almost any conceivable degree of complexity may be represented in this manner, the constitution, or arrangement of the various atoms being such as to express the value of their reciprocal affinities. Into any one of these radicles, new combinations of atoms may be introduced, affecting the properties of the whole system, provided they can replace some of the radicles or atoms of the original molecule; or the molecule may suffer cleavage, splitting it into simpler combinations of chemical nuclei or radicles, and the directions of such cleavages, and, therefore, the nature of the resulting products, will depend on the conditions under which the splitting takes place.

---

*Read in a symposium on Serumtherapy, before the New York County Medical Association.

Ehrlich's side-chain theory of immunity assumes the existence of such complex molecules within the cells of the body, that they are necessary for the normal function of the cell, and that the nutritive processes within the cell are charged with their maintenance. Substances which act as poisons enter into combination with certain definite side-chains forming a part of the molecule, and thereby affect its value in the cells, the functional activities of which are embarrassed. This occurrence does not necessarily destroy the vitality of the cell, nor does it of necessity occasion clinical symptoms, although the latter phenomenon is a frequent result. It does, however, affect the metabolism within the cell, and this calls forth nutritive efforts to replace those side-chains which have been rendered useless by union with the poison. At this point Ehrlich applies a general biologic principle expressed by the term "functional hypertrophy." Under ordinary circumstances the various active tissues of the body possess a certain reserve of organized material which can be called on in case of sudden additional demand. When that stock is drawn on, it is not merely replaced, but an additional store is laid up. Ehrlich supposes a similar occurrence to take place when molecular side-chains are rendered functionally useless by combination with poisonous substances. The nutritive processes within the cell are directed toward the production of an excess of side-chain radicles, beyond the immediate functional needs of the cell. This excess is eliminated from the cell and appears in the circulating fluids as an antitoxin. The production of this excess does not necessarily arrest a further elaboration of these side-chains, for we may conceive of a continuation of the cellular embarrassment due to the poison in spite of an abundant supply of side-chain radicles. Hypothetical as is this theory, it serves to correlate many of the phenomena that have been observed in experiments on immunity.

We must now briefly consider some of the varieties of immunity: first with reference to poisons. An animal may be naturally immune to the influence of substances that are poisonous to other animals. Examples of this "natural immunity" are familiar to us all. Rabbits are not affected by atropin. Fowls are not susceptible to the toxins produced by the tetanus bacillus. These poisons are either eliminated from the body or are burned; they are not neutralized. According to Ehrlich's theory, natural immunity would be a necessary result of the absence of side-chains having an affinity for a particular poison. The blood of naturally immune animals would contain no antitoxin because the conditions for its production did not obtain.

"Active immunity" is that which results when gradually increasing amounts of a poison are introduced into the organism. It is not essential for its establishment that toxic symptoms should be produced, but the rapidity with which the immunity is acquired bears some relation to the amount of toxin introduced within a given time, and it is therefore more rapid when toxic symptoms are developed. On the other hand, it is essential that the toxic dose should not exceed a certain tolerance, otherwise irreparable damage may result. An explanation of these relations, in accordance with Ehrlich's theory, is exceedingly simple. An excessive dose of toxin would so greatly interfere with the chemical structures in the cell as to arrest its nutritive functions. If, however, the dose be smaller, the cell has opportunity to produce side-chains similar to those affected, not only to replace them but also to create an additional store in response to the unusual demand. But the theory includes more than this. It makes it evident that the antitoxin produced must bear a definite chemical relation to the poison that has called forth its production. No such simple explanation of the specific relation between toxins and the antitoxins produced after their introduction into the body has been hitherto given.

There are still other facts connected with active immunity to which this theory is applicable. Among these is the observation that usually those animals which are particularly susceptible to a given toxin yield a correspondingly great amount of antitoxin when successfully immunized. Side-chains, which constitute the chief factor in susceptibility when they are constituent parts of a cell, become the principal agents in immunity when freed from that connection and dissolved in the circulating fluids. Furthermore, it does not follow that all the cells of the body are equally affected by a given poison. The toxic effects may be localized. This appears to have been verified in the case of tetanus, where the central nervous system, especially the brain, contains the only tissues that seem to be directly affected by the poison. Where this localization obtains, the particular side-chains having an affinity for the toxins must be confined to the tissues susceptible to the poison; in the case of tetanus they should be found only in the central nervous system. But, in that case, those tissues should be able to neutralize, at least to some extent, the toxins. Experiments with tetanus have shown this to be the case, particularly in those animals markedly susceptible to tetanus toxins. An emulsion of brain in a fluid containing those poisons has a neutralizing action on the toxins, subsequent injection of the mixture into susceptible animals not producing tetanus. The other tissues of the body do not have this power. According to the theory, they are, therefore, without side-chains having affinity for these particular toxins.

Similar experiments tend to show that the side-chains affected by the toxins of diphtheria are situated in the lymphadenoid tissues: the bone marrow, spleen and lymph-nodes. But, in this case, they do not appear to be sufficiently abundant in the normal tissues to exert much antitoxic action when the tissues are emulsified with the toxins, or, possibly, they are so bound within the cell after its death that they are inactive under the conditions of the experiment. If, however, the animal has been even partially immunized, these tissues have a distinct antitoxic value. It is as though the production of free or loosely combined side-chains had been induced by the toxins used for immunizing.

An exceedingly interesting fact is that other complex proteid poisons besides the toxins of bacterial origin produce effects very similar to the latter and can induce the production of toxins.

Let us pass to the third, or "passive" variety of immunity. It is this which has hitherto given the greatest impulse to serumtherapy. We have seen that the actively immunized animal produces antitoxic substances which are present in the blood in solution. These antitoxins remain in the serum after the clotting of the blood, and it is essentially this serum which is used in passive immunization or in serumtherapy. These antitoxins retain the specific character, possessed by them in the actively immunized animal in which they were produced, but passive immunity differs from active immunity because in the former the free antitoxins introduced into the blood are not constantly replaced by a fresh supply, but are gradually eliminated.

Experience seems to demonstrate that in order to obtain a curative result from the use of antitoxins, it is necessary to use much larger quantities than are required to confer passive immunity. This has its analogy in other chemical reactions, where a reagent in greater concentration can bring about combinations which it can not affect in a more diluted state. It seems possible that a toxic radicle may leave a side-chain, which is already partially satisfied by union with a central nucleus, to unite with similar side-chains when they are present in sufficient abundance and in a free state.

Up to this point, we have considered only the antitoxic character of immunity and have barely touched on the question of immunity to infection. Although closely related, the two conditions are distinct. An animal may be inoculated with a given species of bacterium and not suffer, because the bacteria are killed or can not develop, and yet the animal may be susceptible to the toxins produced by that same bacterial species. A natural immunity to infection is not necessarily associated with immunity to the corresponding intoxication. An interesting experiment in this connection, which, perhaps, requires confirmation, tends to show that, in diphtheria, the serum obtained from animals actively immunized through the agency of diphtheria toxins or dead broth cultures of that bacillus possess both anti-infectious and antitoxic properties; while that from animals immunized with dead bacteria freed from adherent toxins has a germicidal action on the bacillus, but does not neutralize its toxins, i. e., it is exclusively anti-infectious.

When an animal has a natural or acquired immunity to a given bacterial infection, the bacteria which gain access to the body either simply fail to multiply and die, or they become swollen and rapidly killed. In either case, they fall a prey to phagocytes, which complete their destruction. Whether the failure to multiply is due to lack of appropriate nourishment, to a sudden change of environment, or to a direct germicidal and bacteriolytic action exerted by substances within the tissues and fluids of the body are still matters of controversy. It is possible that the final result is not always brought about by exactly similar processes. It is not quite germane to the present discussion to pursue this very interesting line of inquiry, and I shall therefore leave it without entering into further particulars.

In preparing this brief prelude to a series of papers that must necessarily prove much more highly interesting and instructive. I have chosen for the thread connecting my remarks the theory which appeared to me to include in a single conception the greatest number of details concerning a very complex subject. We are not yet in a position to assert that a given poison when introduced into the system will necessarily provoke the production of antitoxic substances. All the theories relating to the subject, however suggestive, are still on trial, and we remain dependent on observation and experiment for those data which may prove of clinical value to the practicing physician and surgeon.

TUBERCULINS AND THEIR USE.*

BY E. A. DE SCHWEINITZ, M.D.
DEAN, COLUMBIAN UNIVERSITY MEDICAL SCHOOL.
WASHINGTON, D.C.

During the past years two different preparations have been used under the name "tuberculin" for the treatment of tuberculosis. They have been distinguished by the names "old tuberculin" and "T. R." As they are not the same in their composition, a word or two in regard to the methods of their preparation may be in place.

The old tuberculin is prepared by using a culture-medium containing beef broth, salt, peptone and 5 to 7 per cent. glycerin. The sterilized medium is inoculated with the tubercle bacilli and the cultures then allowed to grow in the thermostat for several weeks, until the germs are well developed. When the development of the germ has advanced sufficiently the flasks containing the well-grown cultures are placed in the sterilizing oven and heated for about one-half hour at a temperature of 120 C. They are then removed from the oven, the contents of each flask heated to the boiling point, and while boiling filtered through good folded filter paper. The filtrate from these germs, which is the material called "tuberculin," is then concentrated by evaporation on the water-bath, and can be diluted to any desired strength. For further purification, if desired, this filtrate may be passed through a Pasteur or other suitable porous filter, in order to remove any germs that might perchance be still present in the solution. It would, however, be impossible to find a live tubercle bacillus in this liquid, as it has been heated for at least an hour far beyond the temperature at which the tubercle bacillus is destroyed. The old tuberculin, then, so prepared, contains in solution the material which was used in the preparation of the culture-media, namely, the nitrogenous bases of the meat, peptone, salt, etc., those products of the growth of the germ which have passed into solution during their development, and also those which have been retained within the cell walls and extracted from the germs in the process of preparing the tuberculin.

The so-called "new tuberculin" or "T. R.," however, is prepared by cultivating, according to Koch, a *virulent* germ on media similar to that used for the old tuberculin, either liquid or solid media, taking the growth from the surface of the media, as free as possible from all adherent material, and extracting the cells, after drying and grinding, by means of water and glycerin. The broken and unbroken cells are removed from the solution by means of a centrifuge. It will be seen, therefore, that in this method of preparation none of the materials which enter into the composition of the culture-media are contained in the final product, but only the cell contents which have been produced by the growth of the bacilli and have not passed through the cell wall into the media on which they were developed. When the tubercle bacillus grows on artificial media, whether the media above described or a medium of mineral salts and glycerin, on which the germ will also grow, and also when it develops ordinarily in the animal body, several different substances having different properties and different effects on the organism are produced. Some of these, as already noted, are easily soluble, and pass quite readily through the cell wall of the germ into the culture-media, just as is the case with the poisonous substances produced by the diphtheria germ. Other of the substances produced by the growth of the germ being less soluble can not pass so readily through the cell wall, and hence can be obtained in solution only when the cells have been disintegrated. This disintegration may be accomplished by different methods, by the rubbing or grinding of the bacilli or by the application of considerable pressure. I use an adapted milk-shake machine as extractor, to advantage. Another reason why the products of the growth of the tubercle bacilli pass into solution with such difficulty, is because there is quite a thick layer of fatty and waxy material in the cell wall, which prevents dialysis.

---

*Read in a symposium on Serumtherapy, before the New York County Medical Association.

The old tuberculin, therefore, is a solution of a mixture of a number of different substances, a few produced by the germ, others contained in the culture-media, while the new tuberculin or T. R., or tuberculoplasmin, as it is sometimes called, is a solution of the substances which have been produced within the cells as the tubercle germs develop. In addition, as the substances in the old tuberculin have in the course of preparation been subjected to high temperature, some of them have undoubtedly been destroyed or chemical changes have been produced which would render their action entirely different from those which take place normally, when the germ develops in the body. The materials in the new tuberculin have never been heated to a temperature sufficiently high to destroy the germs or affect the products.

It is scarcely necessary to refer to the use of the old tuberculin in treating disease either in experimental animals or in men. Although Kitasato[1] reported that the great difference in the life of experimental tuberculous guinea-pigs treated with tuberculin, and the life of tuberculous checks, was so great that there was little reason to doubt that the improvement was due to the tuberculin injections, nevertheless from an experimental standpoint the results have not been confirmed by others. This lack of confirmation may perhaps be due to a difference in the method of treatment followed by Kitasato, and that which has since been used by others, and perhaps also to a lack of patience on the part of the operators.

In a paper read at the Tuberculosis Congress in Berlin, in May last, Brieger, the chief of staff in Koch's laboratory, one who has had much to do in connection with tuberculin work, asserted that the old tuberculin was not without value; that the disappointing results were due largely to the individuals who used it and also to a lack of care in selecting the cases to be treated. Many cases could be cited in which, according to the different doctors, good results had been secured by the use of tuberculin, and just as many cases in which bad results were secured.

One author, Feigel,[2] in 1891, claimed that the injection of tuberculin caused an injurious influence on the life of the tubercle bacilli. He noted a characteristic change in the appearance of the germ in the animal after treatment with tuberculin, a shrinking of the germ, which became thinner and more thread-like in form and less easily colored and finally entirely destroyed.

Dr. McCall Anderson, professor of clinical medicine in the University of Glasgow,[3] calls attention to several cases in which he has used tuberculin with considerable satisfaction. He also emphasizes the point that in treating tuberculosis it is always necessary to remember that we have not only the tubercle bacillus itself to fight, but must also take care of the soil on which the tubercle germ grows. It is obvious, therefore, that in addition to any special agents the best means must be simultaneously employed to change the soil on which the micro-organism flourishes or, in other words, the best attention must be given to the nutrition of the patient.

In general the following conclusions in regard to the use of the old tuberculin seem to be warranted. It apparently has a decided curative action for lupus. It is a valuable diagnostic agent both in animals and man, and it should be used very much more extensively than heretofore in diagnosing incipient cases.

Beck[4] reports that during the years 1891-97, out of 4254 patients admitted to the institute for infectious diseases in Berlin, 2508 received tuberculin injections; of these, 1525 reacted. If we deduct from these a total of 371 cases which include phthisis, bone tuberculosis, and lupus cases that could easily have been diagnosed without the tuberculin, there remain 1154 cases in which the diagnosis was determined by the use of tuberculin. Such results certainly warrant the belief that tuberculin should always be used in skilful hands in diagnosing tuberculosis and further should always be used in determining whether the disease has been arrested or cured.

We have already noted that in the growth of the tubercle bacilli some readily soluble substances are produced in small quantity, and experiments which have been conducted, it seems to me, indicate that this readily soluble product of the growth of the tubercle bacillus is perhaps one of the most important in the beginning of the disease and also in causing the secondary changes which are very frequently, probably incorrectly, attributed to the action of foreign micro-organisms as streptococci, staphylococci and the like.

The writer[5] and Dorset have described the isolation of a substance from tubercle cultures, which substance in very minute quantity produces congestion and characteristic necrosis of tissue, noted in tuberculosis.

One year later[6] Auclair described the effect, on guinea-pigs, of injections of an ether extract made from the tubercle bacilli. He noted that this extract, when injected, produced characteristic congestion and necrosis, and further, that small quantities, from 10 to 60 mg., of this same extract injected into the trachea caused a characteristic secondary pneumonia so often observed in tuberculosis. In using this crude ethereal extract of the germs Auclair probably had the specific substance which we described in 1897, but mixed with it a considerable quantity of foreign matter which ordinarily. in the animal body, probably never enters the circulation until the disease is very far advanced, if at all. The substance, however, which causes the congestion and necrosis is probably the same as the one already referred to. and as this is quite readily soluble and can pass through the cell wall of the germ into the culture material on which the germ is developing, it is probably the specific material which causes the pneumonia. In fact, by the injection of solution of this substance, which we have extracted in a pure form, into guinea-pigs, we have been able not only to produce characteristic necrosis, but also a pneumonic appearance. If our supposition is correct, that by means of this necrotizing substance the tubercle germ can protect itself from the action of the leucocytes. and render the surrounding tissue suitable for the further development of the bacilli. and this supposition seems warranted by the results that have been obtained. then if we can neutralize the action of this one specific and most dangerous poisonous substance. the natural resisting power of the animal cell. if properly supported, can take up and successfully continue the battle against the further action of the bacilli themselves. The tuberculin—T. R.—already described, may contain this necrotizing substance in very much smaller quantity than the old tuberculin, or may be entirely free from it, depending on whether virulent or non-virulent germs have been used for its preparation. This being the case we might naturally expect different results from the use of T. R. than from the use of the old tuberculin, in producing immunity in animals and men.

Here again, however, there is a great difference in the character of the results reported. In the hands of some workers, as Huber,[7] the immunization experiments on guinea-pigs and rabbits, with T. R. as prescribed by Koch, gave unsatisfactory results. The animals were treated for several weeks with doses of from 2 to 5 mg. of T. R., finally increasing to 20 to 30 mg. They were subsequently inoculated with virulent tubercle bacilli and after this some of them were again treated with T. R. The checks were inoculated with virulent tubercle material. The results, however, in all cases were the same, as the treated animals without exception, as well as the checks, died, and autopsy did not reveal any improvement in those treated.

Petruschky endeavored to explain these bad results on the ground that in some cases there had been an acute poisoning by a too rapid injection of T. R., in other cases a chronic poisoning produced by the injection of T. R., extending over a long time.

In some human cases reported by Raw and Abram,[8] 13 in number, 4 appeared to be cured. These particular ones, however, appeared to be especially favorable for treatment, as the disease was localized and the temperature did not indicate mixed (?) infection. In general, however, they did not consider the results any better than those which would be secured with ordinary treatment. So far as lupus was concerned, the results were very favorable.

Bussenius, reporting the results of cases treated with T. R., comes to about the same conclusions as those already mentioned, namely, that the material is very useful in cases of lupus, in some cases of phthisis which are in good condition and free from fever, but that no case can be positively cured. The length of time during which the treatment is conducted and the size of the dose should be regulated by the reaction of the patient.

It would appear, therefore, that in general T. R. has given no better results in the treatment of experimental animals or of men than those which were secured by the use of the old tuberculin, except perhaps that the secondary symptoms have not been so pronounced.

The differences may perhaps be accounted for by the fact that the T. R. was not uniform in character, and contained varying quantities of the necrotic substances produced by the germ.

Babes and Proca[9] note that if virulent tubercle bacilli are extracted with the serum from an animal that has been treated for a long time with tubercle cultures, a serum supposed, therefore, to contain antitoxin, the extracted bacilli will be found to have lost much of their virulence for guinea-pigs. The serum has apparently neutralized some of the poisons of the germ. The experiments which we have carried on for several years in endeavoring to produce a serum which might have curative properties for tuberculosis have been based on the idea of securing a serum which might have antitoxic or neutralizing properties, for at least the most dangerous of the poisons produced by the tuberculosis germ. We have injected our serum animals, therefore, with a solution of the germ poisons as free as possible from the fatty matter of the germ. Only after *several years* of treatment has the serum from these animals shown some apparent neutralizing and curative properties. The length of time required for the treatment of the animals should be especially noted. An English writer has also recently called attention to this point.

Serum from our laboratory has been used in the Loomis Sanatorium and also been tried elsewhere. The results, reported by Dr. Stubbert, are certainly encouraging. While it is difficult always to say how much of a given improvement is due to climatic conditions, and how much to special treatment, the fact that patients who have been apparently cured with serum seem to remain in better condition than others not so treated would indicate that the use of the serum has been of value. While the serum treatment of tuberculosis must be regarded as in the experimental stage, it is well deserving of further study.

It seems to me, therefore, that the results obtained with the old tuberculin and T. R., and a careful study of the poisons of the tuberculosis germ, indicate that in incipient stages, the disease may perhaps be arrested and immunity secured by injecting the products of the bacilli freed from the necrotic principle, or by treating the patient with a serum which will neutralize the necrotic poison and a subsequent use of the products of the bacilli free from the necrotizing agent. A solution of these poisons free from the necrotic principle may be obtained from *attenuated cultures.*

In any method of treatment it must always be remembered that we can at present hope to neutralize only certain of the poisons of tuberculosis germs, and that the natural immunity and resistance of the animal cell must be relied on for assistance. Therefore the best of nutrition in addition to scientific medication is absolutely necessary.

BIBLIOGRAPHY.

1. Zeitschrift f. Hyg. u. Infektionskrankh., vol. xii, 1892, p. 321.
2. Centralbl. f. Bakt., vol. ii, 1891, No. 4.
3. British Med. Jour., Oct. 1, 1898.
4. Deutsche Med. Woch., March 2, 1899.
5. N. Y. Med. Jour., July, 1897; Centralbl. f. Bakt., 1897.
6. Revue de la Tuberculose, July, 1898, No. 2.
7. Hyg. Rundsch., vol. viii, 1898, No. 21.
8. The Lancet, July 23, 1898, p. 194.
9. Zeitschrift f. Hyg. u. Infektionskrankh., vol. xxiii, p. 331.

USE OF ANTIPNEUMOCOCCUS SERUM.*

BY ALEXANDER LAMBERT, M.D.

NEW YORK CITY.

In presenting a short summary of the clinical use of antipneumococcus serum we will confine ourselves to the consideration of its use in pneumonia, not that its use is necessarily limited to this form of pneumococcus infection, but because the processes which we designate as pneumonia are brought about by the agency of this germ in probably 90 per cent. of all cases of this disease, and also because, although the pneumococcus infection is protean in its manifestations, pneumonia is the form with which we most frequently come in contact. Before considering the clinical use of this serum we can form a better judgment of its value as a remedy if we consider for a moment the problems necessarily involved in its curative action.

Comparing the pneumococcus serum with those of diphtheria and tetanus we find it has a different action in the body. These two sera we know to be antitoxic, neutralizing a toxin which is absorbed from a localized focus of infection, from which focus the germs do not spread and produce a general bacterial invasion of the body. This serum is not bactericidal, as the pneumococci will grow abundantly in it. It is bacteriolytic and the experiments of Mennes and Cacciopo best explain its action. These observers found that the serum alone had no effect on virulent cultures of pneumococci. Neither did the leucocytes of non-immune nor those of immune animals take up the germs, but where pneumococcus serum and leucocytes from non-immune or immune animals were mixed with cultures, the leucocytes in a short time became filled with the germs. Previous to the engulfing of the germs by the leucocytes, the germs showed changes in form and staining peculiarities. These same changes in the cocci were present when leucocytes were frozen and then thawed, and thus killed and their protoplasm freed and the mixture added to a mixture of pneumococcus serum and culture; thus showing some form of inhibitory action on the cocci by a combined action of serum and leucocyte protoplasm before the phagocytosis occurred. This serum therefore can not alone, unaided, bring the infective processes to a close.

---

*Read in a symposium on Serumtherapy, before the New York County Medical Association.

In pneumonia we usually have an extensive exudate, which is within the lung but is practically outside of the body as far as the tissues themselves are concerned. The blood-vessels surround this exudate, in which are growing myriads of pneumococci, and absorb from them their deleterious products. The pneumococcus, moreover, is pre-eminently a septicemic germ and tends constantly to invade the general circulation and produce a general bacterial infection of the entire body. The struggle, therefore, is for the leucocytes and protective substances in the blood to prevent the spread of the infection into the circulation, and at the same time to bring about a degeneration of the exudate and a cessation of pneumococcic growth. The action of all pneumococcic sera which have so far been developed is to act within the blood-vessels and prevent a general septicemia, having apparently but little influence on the exudate. There is a physical limit to the amount of protection any serum will give, and the physical number of bacteria to be overcome is a serious factor in the infecting process. Any pneumococcus left alive has the power to increase in numbers and generate more and more toxin, thus requiring more and more serum. Any given leucocyte can take up and destroy only a certain number of pneumococci. For instance, if a certain leucocyte can engulf and destroy, say, six to eight germs, and can accommodate its life processes to the sum total of the toxins of these germs, it may because of contact take in say ten or fifteen, the sum total of whose toxins it can not overcome, and is itself killed. These germs then live on and grow again. To use a homely expression, the diner on that occasion then becomes the dinner of the occasion. The pneumococcus does produce a toxin, but the endeavors of all investigators so far have failed to separate it in such manner that it can be used to give a true antitoxic quality to the serum. Until this has been done we can not expect the crisis of pneumonia to occur after the injection of the serum, nor can we expect any greater action than the prevention of death from a general pneumococcus septicemia.

This power of the pneumococcus serum to prevent a general septicemia is very strikingly and conclusively shown in the laboratory experiments. The animals used in the laboratory do not succumb to a typical pneumonia, but die from general septicemia, with, however, pneumonic foci in the lungs. The investigators who have recently done most work with the pneumococcus serum are Eyre and Washburn in England, and Pane and his assistants in Italy, and the writer, who has been working constantly on this subject for the last three years in the laboratories of the New York Health Department. Pane now furnishes a serum obtained from turkeys, which he finds will protect against 3000 fatal doses of a very virulent culture. Washburn has confirmed this for Pane's serum, and finds that this serum is active against most pneumococci. Of five specimens of pneumococci it was active against four. Against one it failed to protect. The writer's experience with Pane's serum was unfortunate, as the serum failed to show any protective action whatever. This was due probably to the age of the serum, as it had been drawn four months previously and must have deteriorated. The culture used in the writer's experiments had a marked virulence for rabbits, one two hundredth millionth c.c. being surely fatal when injected subcutaneously. This dilution, plated out, showed but two to three germs. Hence the culture seemed to have the power to develop and kill when a single germ was injected. The serum the writer has used clinically was prepared by him from horses, and would invariably protect any rabbit when .1 c.c. was mixed with .001 c.c. of culture and injected subcutaneously. Using Pane's method, 1 c.c. of the serum injected intravenously simultaneously with, or twenty minutes after subcutaneous injection of the culture, would protect against .5 c.c. of the culture, that is, according to Pane, against one hundred million fatal doses. However, that is but juggling with figures and sounds startling, while it does not convey the real truth. In measuring diphtheria or tetanus toxins you have a substance in solution evenly distributed throughout the whole solution, and any definite amount means a fairly definite amount of substance which will not increase in the body. But in dealing with living germs you have particles in suspension, not in solution, and each particle is a living organism with power to grow and to multiply. As long as any definite dose of culture, which always kills in a certain time, is taken, various amounts of serum can be gauged and any variations in the strength of different sera measured with sufficient accuracy. The relative strength in animals and the necessary amounts for therapeutic use can be accurately calculated. The serum in the laboratory would invariably protect an animal against a subsequent dose of culture not too overwhelmingly large. But if the pneumococci were already in the blood in sufficiently large numbers to be proven by cultures, even large doses of the serum given for several consecutive days would not save the animal. It would prolong life but not save it.

The limits of this paper forbid any further discussion of the facts leading up to the clinical use of pneumococcus serum, and we will now consider the various sera used in pneumonia, and the results obtained. Lara has used both rabbit and dog serum in 10 cases of pneumonia, and obtained recovery in all. He noticed, after the use of dog serum, a nervous excitement, and after the use of rabbit serum, general agitation and a temporary aggravation of the disease. In 7 cases there was a gradual reduction of the temperature, in 3, none. The crisis, however, occurred on the third to the fifth day. Bozzolo used rabbit serum in 5 cases with 4 recoveries and 1 death. He obtained a rapid fall of temperature in all. De Rienzi has also used rabbit serum in 10 cases, and although all were severe, all recovered. Wiesbecker has used human serum obtained from patients convalescing from pneumonia, and he claims to have obtained a striking improvement in the general symptoms, but no crisis occurred.

Pane's turkey serum has been used extensively in Italy, and many physicians have reported favorable results. The temperature has been lowered by it, the pulse improved and the actual number of deaths has been lower than these same physicians were able to obtain by any previous method of treatment. Massalongo, for instance, is very positive that Pane's serum prevents the extension of the pneumonic process and assists resolution. He tried it in 7 cases and states that in alcoholic patients and those suffering from nephritis and endarteritis, the serum will save many patients who otherwise would die. Bordoni used the serum in an epidemic of pneumonia, and says he was able to obtain a lower deathrate than he previously had been able to do. He believes that the serum acts more on the general condition than on the local process. De Rienzi has injected 200 c.c. in twenty-four hours, with no ill effect; the usual dose has been 10 to 20 c.c. twice a day. In 32 cases he reports 29 recoveries and 3 deaths. In 7 the serum has been injected intravenously. Dr. Antonio Fanoni, of this city, last August reported (*N. Y. Med. Jour.*) 6 cases of pneumonia treated with Pane's serum. He obtained 5 recoveries and 1 death. The improvement noticed was in the general condition and feeling of the patients, a lowering of the temperature and an improvement of the pulse. The disease ran the usual course of six to ten days, and the temperature came down by lysis. Dr. Fanoni firmly believes in the efficacy of the serum and that the patients showed distinct improvement after its use. The patient who died recovered from her pneumonia but died of a complicating pericarditis.

Many others might be quoted in Italy, who have used the serum, but this must suffice as giving the general consensus of opinion. Those who have expressed opinions there against it seem to have done so on theoretic grounds, or have used it in only minute doses and have not given it a fair trial.

The writer's own experience with his own serum has been confined to 12 cases of pneumonia, with 9 recoveries and 3 deaths. Summarizing the impressions obtained, the serum seemed to cause a slight reduction of temperature and an improvement in the pulse. It did not cause a crisis in any case, nor seem to cut short the pneumonic processes. It did cause the disappearance of the pneumococci from the general circulation in one patient, although it did not prevent the development of an empyema, and the patient made a good recovery. Another patient with double lower pneumonia complicated with a furious delirium tremens recovered, relapsed with a double upper and right middle lobe pneumonia and recovered. The serum in this patient seemed to be of decided benefit, and the patient showed improvement after its use. In two of the patients who died, both alcoholics, the serum had absolutely no effect. The leucocytosis was not influenced by the serum except in one patient, in whom it was increased by 10,000 an hour after the injection. It had fallen again by the next day. I have not persisted in the use of the serum because I could not see that it shortened the duration of the disease nor held in check the pneumonic processes within the lungs. In one or two patients I honestly believe it did marked good; in others it was useless.

The pneumonia serum at present does not seem to shorten the duration of the disease, nor cut short the pneumonic processes in the lungs, nor bring about the desired "crisis." But it does seem, in certain cases, to prevent a general pneumococcus septicemia, and thus in these cases it may save life.

There are problems in obtaining pneumococcus serum which at present baffle and puzzle us, and whether these can be solved can not be answered yet. This is no cause for discouragement, but simply one for continued work. Until we can obtain a serum which will distinctly cut short the disease processes, the antipneumococcus will be limited in its use and its usefulness.

125 East Thirty-sixth Street.

USE OF DIPHTHERIA ANTITOXIN IN THE TREATMENT AND PREVENTION OF DIPHTHERIA.*

BY WILLIAM H. PARK, M.D.
NEW YORK CITY.

The final test of the value of diphtheria antitoxin in diphtheria is the results derived from its use. The difficulty, however, of knowing what would have been the course of a case, if antitoxin had not been used or had been used, is so great that it is well to gather proofs from other possible sources, as well as from personal experience. Therefore, I will consider certain facts derived from laboratory experience and from statistics.

Is the diphtheria bacillus capable of growing in the human throat and there producing poisons, which when absorbed and brought in contact with the cells of the body excite processes which we call diphtheria? The truth of this is established. Personally I know of three instances in which the virulent bacillus we use in our laboratory was sucked into the mouth by mistake. In two severe diphtheria developed within sixty hours, and in the third no harm resulted.

Almost countless investigations have shown that in undoubted cases of what we would call real diphtheria, the diphtheria bacilli are present in the local lesions and can be detected there when properly sought. I believe that all who know about this subject agree with this.

Are there any diseases which simulate diphtheria in which other micro-organisms than the diphtheria bacilli are the exciting factors? Certainly there are diseases due to other bacteria, whose local lesions or general symptoms closely resemble those of certain types of true diphtheria. By this I do not mean that these other diseases even have all the characteristics of well-developed, true diphtheria, nor that one who is experienced can not tell in most instances clinically whether a well-developed case is or is not due to the diphtheria bacillus, but I mean there are cases of "croup" or "tonsillitis" in the exudate of which no man can say, from merely looking at it, what bacteria are growing and producing their poisons. This is true of the diseases of other regions. Very often it is impossible for a physician to say whether a pneumonia is due to the pneumococcus or to the influenza bacillus. Or again, there are drug and serum rashes which can not be differentiated from atypical cases of scarlet fever. No one would say that a serum rash and a scarlatina rash were due to the same infection, or that the after-effects or the danger of communication were in both equal.

Perhaps some are thinking: "What difference does it make, anyway, so far as treatment goes, what bacteria are the exciting factor?" It makes every difference, for we are here dealing with bacteriologic remedies, and the different antitoxins act only, or at least chiefly, on one bacterial poison. Thus diphtheria antitoxin completely neutralizes the poisons produced by diphtheria bacilli, and so far as we know those only.

---

*Read in a symposium on Serumtherapy, before the New York County Medical Association.

Let us dwell a moment on the action of diphtheria antitoxin on the diphtheria toxins. When a minute quantity of diphtheria antitoxin is mixed with a large amount of toxin, it neutralizes the poison completely in about twenty minutes, so that the mixture, when injected in an animal, is an inert substance. Recent investigation seems to prove that the antitoxin acts in the body also on the diphtheria poison. We see, therefore, why we have to inject the antitoxin early in the disease, for its action is to render harmless the toxin circulation in the blood, but not to cure nor even help the injuries already suffered by the cells.

One other bacteriologic fact must be noted before considering the practical results of the use of antitoxin. The body at the same time may be invaded by more than one micro-organism. Clinically, we all recognize that we may have a scarlet fever and a diphtheria together. Less clearly, probably, we recognize that an otitis media, a pneumonia or a septicemia occurring in the course of diphtheria is usually really just as much, as in the example just given, the addition of one or more diseases to one already existing, i. e., in bacteriologic language, an invasion of the body by more than one variety of bacteria at the same time. Now, against the poisons of these other micro-organisms the diphtheria antitoxin is helpless. This is another reason for using it early, as these secondary pneumonias and septicemias come as a rule only when the diphtheria poisons have paved the way by their cell injuries. Of those who feel that the advocates of the diphtheria antitoxin treatment mislead themselves by their desires, I would ask why it should be that we believe so strongly in the value of diphtheria antitoxin and yet at the same time believe that no other protective serum has shown great value? Is it not because the evidence of years in diphtheria is for the serum treatment, while in other diseases the evidence is for the serum being of either little or no appreciable value. In diphtheria everything is favorable, for we have a strong antitoxin and we can diagnose the disease before constitutional poisoning has developed. In tetanus we have an equally strong antitoxin, though we can not make our diagnosis on the appearance of the wound, but only after development of general symptoms due to the cell poisoning.

Let us now turn to a few statistics, which I shall give as fairly as I can:

TOTAL NUMBER OF DEATHS FROM DIPHTHERIA FOR THE PAST 20 YEARS IN NEW YORK CITY (MANHATTAN AND BRONX BOROUGHS).

A study of diphtheria statistics in New York will show that the actual number of deaths from diphtheria before 1895 did not vary much for a number of years. The influence of the increase in population was counteracted by our better knowledge of how to handle the disease. About every sixth year the deaths would mount to 3000, and then diminish gradually to about 2000. Thus for the fifteen years previous to the introduction of the use of antitoxin, the average number of deaths per year from diphtheria and croup was 2373; highest number 3287 (1881), lowest 1653 (1883). In the year previous to the beginning of the use of antitoxin (1894) the deaths were 2870. In the past four years, during which antitoxin has been quite generally used, the deaths have averaged 1341 a year, more than 1000 less than the average of the previous fifteen years. During the past two years the average deaths number 1005, or 600 less than the smallest number in any year since 1880.

In Boston, Dr. McCullum has informed me, previous to 1894 there died yearly, from diphtheria, from 15 to 18 persons in every 10,000 inhabitants. In the past four years the average number has been 7, and in the past two years less than 4 (3.6).

The great reduction in the number of deaths from diphtheria in almost every place in the world since the general introduction of the antitoxin treatment may not be entirely due to the effects of the diphtheria antitoxin, but certainly the fact is so striking that it rightly tends to make us believe that a large portion at least of this saving of life is due to its use.

Let us turn a moment now to consider the results in cases actually treated with antitoxin. We will first take up cases of diphtheria among the poor of New York, injected with free antitoxin by department of health inspectors and by physicians, from Jan. 1, 1898, to Jan. 1, 1900. The total number amounted to 2528, of which 302 died, a mortality of 11.9 per cent. All of these had diphtheria (clinically) and all showed diphtheria bacilli in the cultures made. Considering the nature of the cases I believe that without antitoxin the mortality would have been at least doubled. Of these 2528 cases, there were 802 in which the larynx was affected; 185 died, a mortality of 23 per cent.; 191 were intubated and 69 of these died, a mortality of 36.1 per cent., certainly not a bad result when you consider the conditions; 70 per cent. of the 2528 patients were under 5 years of age.

One word as to the important point of the day of disease on which treatment was begun: Of 319 injected on the first day, 13 died, a mortality of 4 per cent.; 850 were injected on the second day, and 57 died, a mortality of 6.7 per cent.; 573 were injected on the third day, with a mortality of 12 per cent. The value of the early injection is apparent. These figures, as before stated, include all cases injected; some died within a few hours of being seen, the antitoxin only being administered because the physicians desired it. Many had complicating diseases, e. g., 25 had scarlet fever.

IMMUNIZATION WITH DIPHTHERIA ANTITOXIN.

The department of health inspectors immunized, from Jan. 1, 1895, to Jan. 1, 1900, 6506 cases, of which 28 developed evidences of diphtheria within twenty-four hours; all recovered. After twenty-four hours and within thirty days, 27 cases of uncomplicated diphtheria developed, and all these recovered. The only one of these patients dying within one month was one with scarlet fever and diphtheria, who died on the second day of illness. We have, therefore, among 6506 persons, mostly children and mostly exposed directly to diphtheria, no fatal cases of diphtheria developing within thirty days, with the exception of the one having scarlet fever.

About 3 per cent. of the persons injected showed rashes, and about .5 of 1 per cent. more or less febrile disturbance. In several the symptoms were quite distressing for from twenty-four to seventy-two hours, but in no case, however, did any permanent injury, so far as we could detect, result. For the use of the above statistics I wish to thank Drs. Biggs and Billings.

The high mortalty at the Willard Parker Hospital is due to the condition of the children sent there. A great many come there late in the disease, when septic or exhausted from prolonged obstruction to their breathing. These are unsuitable for any treatment, especially for that of antitoxin, which must be given early to exert its beneficial effects.

In Boston, where the hospital is centrally situated, instead of regarding it as a last resort the people endeavor to gain entrance to it, so that last year more than one-half of all the cases were treated there. For the past two years their mortality percentage in the hospital has only been 12.5 per cent., nearly as good as that obtained among the poor in their homes by our own inspectors.

Statistics of Diphtheria Wards of Willard Parker Hospital.

	ALL CASES ADMITTED.			INTUBATION CASES ONLY.		
Year.	Number.	Died.	Mortality.	Number.	Died.	Mortality. Per cent.
			ANTITOXIN NOT USED.			
1893	343	108	31.48	....	....	....
1894	699	204	29.33	47	40	85
			ANTITOXIN USED.			
1895	778	190	24.42	154	114	74
1896	823	205	24.91	143	101	71
1897	844	214	25 36	130	92	70
1898	593	109	18.38	115	46	40
1899	758	192	24.24	150	90	60
1900, Jan. and Feb.	....	....	....	45	25	55

Average mortality before use of antitoxin, 30.41 per cent.
Average mortality since use of antitoxin, 23.46 per cent.
Mortality six months previous to use of antitoxin in intubation, 85 per cent.; for last two years, 52 per cent.

A very interesting test of the value of antitoxin in diphtheria, even under the conditions met with at the Willard Parker Hospital, was tried a year ago last summer. For six weeks only every alternate case received antitoxin. Dr. Winters looked after the treatment of those not receiving it, and Dr. Berg, I believe, those receiving it. I carefully watched both series of cases, and the difference was very marked in favor of the antitoxin series. Even Dr. Winters did not ask to have the test prolonged. Before 1892 no culture examinations were made and all suspected cases were admitted. In 1892 culture examinations were made after admission to the hospital, but all cases were kept. Thus, in 1892, 492 were admitted, and 113 died, a mortality of only 23 per cent. Of those containing diphtheria bacilli the mortality was, however, 34 per cent., the others having a mortality of only 3 per cent. In 1891 the mortality in all cases of suspected diphtheria was 26.32 per cent.

ADMINISTRATION OF ANTITOXIN IN DIPHTHERIA.

The serum should be clean looking and sterile and not over six months old. It may or may not have in it a small percentage of trikresol or carbolic acid. Our own has no antiseptic added. Diphtheria antitoxin is measured in units, not grains. A unit is the amount of antitoxin which protects a guinea-pig from 100 fatal doses of toxin; all the physician needs to remember is the number of units to employ.

Antitoxin is put up in different grades, the lower grade having 100-300 units in each c.c. of serum, the higher having 400-600 units. Other things being equal, the higher grades are better and more convenient than the lower ones. *In the laboratories of the New York Health* Department we have, until recently, striven for a serum which had the greatest possible amount of antitoxin in each c.c. In the future our effort will be to get the highest grades of serum which will not produce rashes, for we find that the serum extracted from the blood from different horses, and even from the blood of the same horse, at different times, varies not only in the amount of antitoxin it contains, but also in the amount of substances which cause rashes, fever, etc. A serum should therefore first be chosen because it has proved not to be irritating, and then only because of its grade. Samples of all bleedings will be used first in a few mild cases and then only those serums which pass this test without giving rashes will be used. In the course of a few months we hope that we will have no serum at the stations, or in use by our inspectors, which will produce rashes or other deleterious results in any except a very few extremely susceptible persons, and even in these that no serious effect will be noticed.

AMOUNT OF ANTITOXIN TO BE ADMINISTERED AND THE NUMBER OF INJECTIONS IN A SINGLE CASE.

There is still some difference of opinion among competent observers as to this. Our practice is the following: Patients seen early, in whom the onset is mild, 1000 units; those seen early in whom the onset is severe, either as shown by local signs such as swelling, hyperemia or, extent of exudate or by constitutional symptoms, 2000-4000 units, according to severity; those seen after the disease has progressed so far that its local extent can be guessed, mild cases, 1000-2000 units according to size, moderate ones 2000-3000 units. Severe, showing necrosis, swollen glands, laryngeal stenosis, receive 3000-4000 units.

The effects to be expected are that the local disease should not extend, that the swelling and hyperemia should lessen and the constitutional symptoms abate. If these changes have not begun to clearly manifest themselves twelve hours after the injection it should be repeated. If in twelve hours more no decided improvement occurs, which rarely happens excepting in cases already very severe when first injected, still a third dose should be given; some even advise a fourth. The extent of the disease rather than the size of the patient guides the dosage; still, size should be considered somewhat, and I should not advise, in a child under 1 year, more than 3000 units at a single injection, and under 6 months, not over 2000. If the cases are severe, injections should be repeated just as in larger children. In adults attacked with malignant diphtheria, the largest doses mentioned should be used and fearlessly repeated. With the serums as now used, both ours and those of other manufacturers, these large doses have produced, in a small percentage, very disagreeable, but in so far as I know no dangerous, results, namely, rashes, fever and, in a few, joint inflammation. In the hospital, in some of the severe laryngeal cases the course of the disease has undoubtedly been unfavorably influenced by the development of rashes, fever, desquamation, etc. Most of these, the majority seeing the cases, believe to have been a complicating scarlet fever. They looked in every way like it. Others believe that it was antitoxin.

Whether some samples of serum may or may not cause, along with their beneficial effects, really serious deleterious effects is a question; still, we know that many samples of serum produce practically no disagreeable results. I have seen 60 patients treated with but one rash resulting. I have also seen twenty treated with ten rashes developing. To select good serum and throw away the irritating *is only a matter of expense. At present* I see no other way of eliminating rashes and other deleterious effects from substances in some sera.

In closing let me simply say that from my own almost constant observation of diphtheria during the past eight years, that is both before and since the introduction of antitoxin, I believe that the early use of antitoxin does great good in diphtheria, and that it should be used immediately in all patients where the onset is active without waiting for cultures. In mild cases already fully developed or on the mend when first seen the use of antitoxin is a matter of minor importance, as they will do well anyway. Let me also recommend its use in all suitable cases for immunization. It gives us a guarantee of at least two weeks of safety, and this period can be lengthened at will by repeating the dose.

REMARKS ON THE BACTERIAL THERAPY OF YELLOW FEVER.*

BY CHARLES B. FITZPATRICK, M.D.

NEW YORK CITY.

Dr. A. H. Doty, health officer, who was to have addressed you to-night, has asked me to take his place and say a few words in a non-technical way on the general subject of the bacterial therapy of yellow fever. This perhaps will be best accomplished by taking a few extracts from a report which I am preparing on the bacterial treatment of yellow fever, and adding thereto the observations of other investigators.

Our experience with the bacterial therapy of yellow fever embraces: 1, the use of the blood-serum prepared from the bacillus icteroides of Sanarelli; 2, the use of the toxin of the bacillus icteroides employed as a vaccination fluid, and 3, the use of a prophylactic fluid prepared, according to Haffkine's methods, from this bacillus and the colon bacterium found at autopsy in the liver and heart blood of yellow fever patients.

The serum prepared from the bacillus icteroides was used on 4 patients with yellow fever at the Swinburne Island Hospital, 8 at Vera Cruz and 1 at Havana. The Vera Cruz cases were diagnosed and injected by Dr. Barnard, of Charleston. The results of the observations on the first case—that of Mr. Lackey—appeared to indicate a curative effect due to the serum, but the results as a whole indicate that the blood-serum prepared from the bacillus icteroides does not cure nor modify the course of the disease in any way. The above cases were selected ones, i. e., not too far advanced. The serum employed was prepared by me and 5 to 10 c.c. were required to cure a guinea-pig, weighing 250 gms., which had been injected with a fatal dose of the culture. This was the strength of the serum obtained by Sanarelli and employed by him.

Sanarelli[1] reported 22 cases of yellow fever treated by his serum, with 6 deaths, a mortality of 27 per cent. He claims that these results prove his serum to be curative. He also reports having used it with success in immunizing the inmates of a prison.

Dr. Archinard, of New Orleans, treated 11 patients with Sanarelli's serum, and could trace no modification nor cure of the disease due to the serum. The serum employed by Dr. Archinard was imported from South America, where it had been prepared under Sanarelli's direction. Dr. Wasdin, of the United States Marine-Hospital Service, also used the imported serum on 3 patients and noted no curative effects. I have endeavored to make the serum stronger, but have not succeeded. Professor Lutz, of Santos, Brazil, also states that the serum is not effective. The above results do not agree with Sanarelli's and indicate that the serum of the bacillus icteroides is not curative in man.

Dr. B. Baker, acting under instructions from the New York health officer's department, injected a number of yellow fever convalescents at Vera Cruz with 1 c.c. of the toxin of the bacillus icteroides (San.). The reaction caused by this injection in 6 cases showed Faget's pulse and temperature, namely, a rising temperature with a falling pulse. This pulse and temperature is held by Faget and others to be diagnostic of yellow fever. This observation is very interesting in its relation to the bacillus icteroides being the specific cause of yellow fever, but is by no means conclusive. If the bacillus icteroides be the specific cause of yellow fever, this observation tends to show that the acquired immunity of the disease is only a partial immunity, i. e., it may protect against the infection, but does not protect against the toxin.

The use of the prophylactic fluid prepared according to Haffkine's methods, from the bacillus icteroides and the colon bacterium obtained from the blood of yellow fever patients, has given favorable results in animals but has not as yet been employed on man.

Dr. Agramonte, of the U. S. Army, has recently tried serum obtained from the veins of yellow fever convalescents on 4 patients with yellow fever, on or before the fifth day of the disease, and states that he succeeded in modifying the course. This method has been used before and, apart from the difficulty of obtaining enough serum, has not given very promising results.

To summarize: The serumtherapy of yellow fever is still in the stage of investigation and does not appear to warrant any conclusions other than that the blood-serum of the bacillus icteroides does not cure nor modify the disease, and that further investigation is necessary.

Criminal Court Building.

---

*Read in a symposium on Serumtherapy, before the New York County Medical Association.

[1] Annales del' Institut Pasteur, May, 1898.

ANTIRABIC SERUM IN THERAPY.*

BY ROBERT J. WILSON M.D.

NEW YORK CITY.

Up to this date attempts to inaugurate a serum treatment for rabies have not, so far as we know, proved successful. Tizzoni and Centanni, following in the lead of Valli, succeeded in immunizing animals with a virus attenuated by peptonization, and from such immunized animals obtained a serum for which they claimed both a preventive and a curative value. Briefly, their method was to give the animal to be immunized seventeen injections in a period of twenty days, each injection representing .25 gram of virus for every kilogram of the weight of the animal being immunized. After twenty-five days the animal was bled and the serum collected in the usual way. The immunizing dose of serum was represented by one part of serum for every 25,000 parts of body weight.

The report of their work showed a high degree of protective action in the serum. The method of inoculation of their test animals, however, is open to criticism and can not fail to cast a doubt in the mind of the reader as to whether the protective effect of the serum was rather apparent than real. This doubt is emphasized when we find that the serum is to be used only in conjunction with the already recognized effective preventive inoculations. There is a class of cases, however, where the serum, although of only doubtful value, might be used, that is, in cases where a long time has elapsed between the time of infection and the commencement of treatment.

As is well known, the Pasteur method of preventive inoculations is wholly without effect after the advent of symptoms, and it is in just such cases as these that the serum, if it has any value at all, might do good. For if it has the curative action claimed for it, even in a low degree, it might retard the period of invasion of the disease and thus allow the preventive inoculations to become effective.

The serum, unlike the attenuated virus, which depends on certain changes in the organism after inoculation to procure immunization, gives its protective action immediately on administration.

352 West 117th Street.

---

*Read in a symposium on Serum[illegible] the [illegible] County Medical Association.

ANTISTREPTOCOCCUS SERUM.*

BY HOWARD LILIENTHAL, M.D.
NEW YORK CITY.

Three years ago I reported my impressions of the efficacy of antistreptococcus serum based on experience with 5 or 6 cases. In some of these the presence of the streptococci in the wound-discharges had been demonstrated, and in others staphylococci had been found both in the discharges and in the blood on culture. At that time my conclusion was that the serum rarely if ever did harm, and that in desperate cases the patient should be given the benefit of this treatment in connection with other and better known therapeutic measures. Further acquaintance with the subject has not caused me to modify the views I then held, though the percentage of recoveries due, apparently, to the employment of the remedy has not been encouraging.

Several cases in which there were clinical symptoms of the severest type of sepsis seemed to yield to the serum treatment instituted before it was possible to make an accurate diagnosis; but they one and all turned out to be either staphylococcus infections, or *local* streptococcus infections with constitutional symptoms but with no bacteria in the blood. No patient whom I have observed has ever recovered when streptococci have been clearly demonstrated in the blood stream. Recovery, however, is by no means uncommon when staphylococci—even in the blood—are the offending germs.

In my earlier cases the dose of the serum was, probably, far too small. If the fluid as usually prepared is to have appreciable effects, not less than 20 c.c. at a time should be given, while the toxic dose is, so far as I am aware, unknown.

Troublesome urticaria has a number of times followed the use of the serum, and has been regarded by me as one of its untoward effects. Abscesses containing streptococci appeared at the site of the injections in one case where the germs had been previously demonstrated by blood culture. The serum in this instance was obtained from the laboratory of the New York Board of Health, where it had been carefully tested and proved sterile. The injections, perhaps acting as traumatisms, seemed to cause places of lessened resistance which were directly attacked by the bacteria from the blood. The abscesses became very large before they caused noticeable local symptoms, though they were diffuse and even phlegmonous in character. The patient finally died. The case was one of general sepsis following amygdalitis with secondary cervical abscess. From two to three doses of 20 to 40 c.c. were given daily for eight days. The only fairly constant effect of each dose seemed to be a temporary lessening of the delirium.

I would outline the indications for the use of the antistreptococcus serum in the following manner:

Whenever there is severe sepsis with a visible cause, the first thing to do is to remove or thoroughly drain the contaminating focus or foci. The sediment of the urine, carefully drawn by catheter, should be stained for bacteria and examined. The discharge from the wound should be smeared on a slide, stained and examined with the microscope. Cultures should be made from the wound-discharges and from the blood.

If the urinary sediment contains streptococci the prognosis is extremely bad and treatment by the serum should at once be instituted in addition to energetic efforts by other means in the direction of general and local antisepsis.

If the patient's condition is extremely serious and streptococci are found in the smear from the wound the serum should be used.

If streptococci are found in the wound-discharge but not in the urine, and if the general condition in spite of elevation of pulse and temperature is not decidedly alarming, it is better to await the result of the blood-culture test, meanwhile treating the patient on general principles.

If no streptococci are found by these examinations, and the patient's condition is not truly desperate, the result of the cultures must be awaited, resorting to the serum treatment if the disease becomes alarming in the meantime. Blood culture is sometimes annoyingly slow, a negative examination perhaps becoming positive at the expiration of from three to seven days.

As a final word it must be admitted that the efficacy of the remedy as now prepared has not been proved.

Treatment by the antistreptococcus serum is most strongly indicated in the presence of systemic infection by living streptococci, but the prognosis still remains bad. Antistreptococcus serum may be used in any case of grave sepsis when the exact bacteriologic diagnosis is in doubt, but never to the exclusion of other rational therapy.

679 Madison Avenue.

---

*Read in a symposium on Serumtherapy, before the New York County Medical Association.

THE MIXED TOXINS OF ERYSIPELAS AND BACILLUS PRODIGIOSUS IN THE TREATMENT OF SARCOMA.

BY WILLIAM B. COLEY, M.D.
ATTENDING SURGEON TO THE GENERAL MEMORIAL HOSPITAL.
(NEW YORK CANCER.)
NEW YORK CITY.

In a paper before the Academy of Medicine March 1, 1900, I gave a brief résumé of the cases of sarcoma thus far treated by myself with injections of mixed toxins. In the few minutes alloted to me this evening it will scarcely be possible to do more than give a short abstract of these results. My recent experience has given me no reason to change the conclusions already expressed in earlier papers; I still find the round-celled sarcoma is much less susceptible to the inhibitory action of the toxins than the spindle-celled, and the melanotic is even less affected. In regard to the method of preparing the toxins, the technique and administration, I have nothing new to add. The preparation which I still believe to be the best is the mixed unfiltered toxins of erysipelas and bacillus prodigiosus made from cultures grown together in the same bouillon and sterilized by heating to 58 C. In children and in patients much reduced in strength it is safer to use the filtered toxins. The toxins, to be of value, must be made from very virulent cultures, the virulence being kept up by frequently passing the cultures through rabbits.

The dose depends very largely on the vascularity of the tumor and the condition of the patient. The initial dose should seldom be larger than ½ minim, and the injection when possible should be made directly into the tumor itself. Strict aseptic precautions should be taken, since the administration of the toxins increases the liability to infection from other organisms if pathogenic germs are present.

In regard to the duration of the treatment, fortunately we are able to in most cases tell within three or four weeks whether or not the toxins are likely to prove beneficial. If no improvement is noted at the end of this time, it is seldom worth while to continue the injections. In most of the successful cases marked improvement has occurred within a week after the first injection. If improvement occurs, the toxins should be continued until the tumor has either entirely disappeared or until it has become evident that the controlling influence of the toxins has been lost, as shown by further increase in the size of the tumor. The question, how long toxins can be safely given is an important one. That they may be given for very long periods without harm to the patient, we may consider now proved. In one patient they were given for 2½ years, two or three times a week; in another, with eight-times-recurring spindle-celled sarcoma of the chest wall, toxins were administered with occasional intervals of rest, for three years. It was held in check by small doses. The patient, a well-known physician, is at present in perfect health, five and a half years from the beginning and two years from the cessation of the treatment.

---

*Read in a symposium on Serumtherapy, before the New York County Medical Association.

In order to properly explain the curative action of the erysipelas and bacillus prodigiosus toxins on sarcoma, I am more than ever convinced that this action can be explained only on the theory that sarcoma is of microparasitic and infectious origin. Furthermore, I believe that the action of the toxins furnishes additional evidence in support of the infectious origin of cancer. In view of the steady accumulation of successful cases treated by the toxins, the earlier attempts to explain the disappearance of these tumors on the theory of mistaken diagnosis no longer demands consideration. If these cases are to be excluded, the same reasoning would demand excluding successful cases following operation. Those treated with toxins have been submitted to far more severe tests than usually applied to operative cases, the clinical and microscopic diagnosis having been confirmed by a number of surgeons and pathologists.

After an experience of upward of eight years with this method of treatment, the question may be fairly asked: Has this method any permanent value and, if so, what are its limitations and dangers? The question of the permanent value can best be answered by giving a résumé of the final results of the cases thus far treated. My time will permit only a very brief abstract of these results. I would like, however, to call your attention to one patient whom I had the pleasure of showing at the meeting of the Academy, March 1, of this year, in perfect health more than seven years after treatment. This patient was referred to me in January, 1893, by Dr. L. Bolton Bangs, with a very large spindle-celled sarcoma of the abdominal wall and pelvis. A portion of the tumor was removed for examination and the diagnosis of spindle-celled sarcoma made by Dr. H. T. Brooks of the Post-Graduate Hospital. The tumor was of large size, extending nearly to the umbilicus and growing rapidly. The patient's condition was regarded as hopeless. I began treatment with the mixed toxins, Jan. 3, 1893, at the New York Cancer Hospital. Injections were made directly into the tumor. Treatment, with occasional intervals of rest, was continued nearly six months, at the end of which time the tumor had disappeared. The boy has remained in perfect health up to the present time, and is now a vigorous man weighing 160 pounds.

In January, this year, I presented before the Surgical Section of the Academy the patient who, in August, 1897, was treated with toxins for a recurring, rapidly growing, and totally inoperable spindle-celled sarcoma of the parotid, with secondary involvement of the glands of the neck. The tumor entirely disappeared, and the patient is in perfect health 2½ years after treatment.

A very large spindle-celled sarcoma of the abdominal wall in which the diagnosis was confirmed by Dr. Whitney, pathologist to the Massachusetts General Hospital, and considered inoperable and hopeless by Dr. Maurice H. Richardson, was treated in October, 1894, with the result that the tumor entirely disappeared. The patient remains well 5½ years after treatment.

These patients, though not more important nor more interesting than many of the others, are simply given as types of those in whom toxins have been successfully used. Those who have been traced to the final results now prove that the action of the toxins may be properly called curative. Many of these have already passed the period of time which would be regarded as sufficient to establish them as cures after operative procedures. Of cases treated personally, 13 have passed the 3-year limit. It is but fair to state that 1 of these had a recurrence 3¼ years after treatment and died six months later. One is now well seven years after treatment; 3 are well six years; 2, five years; 7, three to five years; 4, two to three years; 3, one to two years; while 3 others have been observed less than one year. Three in whom toxins caused the disappearance of the tumor were followed by a recurrence in varying periods of seven months in 1; two years in 1; and 3¼ years in 1. These in a way are of the greatest importance, inasmuch as they establish the correctness of the diagnosis beyond a doubt.

I might mention two other successful cases in which the treatment, though begun in one case, personally, and directed in the other, was carried out by other surgeons. One of these, a spindle-celled sarcoma of the palate and fauces, very extensive and totally inoperable, is well six years after treatment; and the other, an inoperable spindle-celled sarcoma of the breast, in which the diagnosis was made by microscopic examination and confirmed by Dr. W. H. Welch of the Johns Hopkins Hospital, is now in perfect health four years after treatment.

In regard to the type of tumor in which success is most likely to attend the treatment, 11 of my own successful cases were of the spindle-celled variety, and but 4 round-celled. Of others, 3 were mixed-celled sarcoma; in 4 the diagnosis of sarcoma rested on clinical signs aided by the history of rapid recurrences in many cases.

To estimate the success very roughly by the percentage, in about 50 per cent. of the spindle-celled sarcoma, the tumor entirely disappeared, and in nearly all of the mixed variety improvement was noted, while in round-celled sarcoma only about 5 per cent. were successful.

In a former paper[1] I gave a report of 35 cases of inoperable sarcoma treated by other surgeons by the same method, with complete or partial success. In 26 the tumor entirely disappeared, and in 14 the patients were well from two to four years after treatment. It is interesting to note that in 10 of these cases the sarcoma was spindle-celled, and in 10 round-celled. Since the publication of this paper the number of successful cases in the hands of other men has considerably increased.

I believe that with the observance of proper aseptic precautions the risks are *nil*. Including early experimental cases of inoperable carcinoma, I have now used the toxins in 230 cases, with but two deaths, both of which occurred more than four years ago. One of the patients was so nearly moribund that the toxins, although given in very minute doses, should never have been used at all.

In estimating the percentage of cures, or rather, in estimating the value of the method by the percentage of cures, it is well to remember that the treatment is advised only in cases in which there is no hope of cure by operation, in other words in entirely hopeless ones. In a number of cases in which the only operation to be considered was amputation, the arm or leg has been saved for the patient by the use of the toxins. In my own series, in a very large number of cases treatment was given only after the disease had reached such an advanced stage that there was practically no hope of more than temporary improvement. The fact that even one case of inoperable sarcoma has been cured would seem entirely sufficient to offset the disappointment of a hundred failures. If instead of saving only 1 per cent. there is a probability of saving more than 12 per cent. of these otherwise hopeless ones, we certainly have sufficient encouragement to continue the method. It is but a short time since 12 per cent. of success after operation for cancer of the breast was regarded as a brilliant result. I believe a most promising field, and one that to the present time has been little developed, is the use of the toxins in small and safe doses directly after operation, as a prophylaxis against future recurrence.

---

[1] The Journal, July, 1898.

DOSAGE IN CHLOROFORM ANESTHESIA.*

BY A. S. v. MANSFELDE, M.D.
ASHLAND, NEB.

By way of introduction, I quote from one of our honored confrères, a truism, which can not be too strongly emphasized:

"The greatest among us does not lower his dignity when he places the patient on the confines of death, safely holds him there, dead to pain and consciousness, whilst the surgeon wields his knife, and then restores him to life." (R. M. Stone.)

As we go along, it will become convincingly clear to you that "the greatest among us" should approach the responsibility of administering an anesthetic with fear and trembling; he will even insist that his knowledge is far from being comprehensive enough to grasp all the factors concerned in this grave undertaking. To him this is not simply a question of the cessation of respiration, or of the heart's action, or which shall first succumb. He will crave the need of a profound knowledge of what takes place, step by step, to the end of the operation, or the supervention of death. A correct interpretation of what transpires; a knowledge of the best means of preventing what can be avoided, and a reduction to the minimum of danger of what can not be prevented or foreseen, are desiderata of the highest importance.

Anesthesia simply means a stage in the administration of the agent employed, lying on the borderland of death, and so close to it that the slightest mistake on the part of the anesthetist will land his charge on the shores whence no traveler ever returns. Such dangerous navigation certainly requires a skill which no other work demands. No one should give, nor attempt to administer, an anesthetic, who has not acquired the skill by the most careful study of the means employed, their mode of action, their dangers, their avoidance, if possible, and their prompt removal if they occur. He should also possess a familiarity with all the phases of the art, by a most painstaking apprenticeship: in other words, the anesthetist should be a specialist of the highest attainments which scientific medicine can confer.

Does the knowledge of a hospital nurse, a first year's student, or even of a young interne suffice to meet these just demands? I incline to the opinion of a recent writer on anesthesia, that there are those who know "what is what" in all branches of human undertaking and, in consequence, they make a brilliant success of their special work, from a Lawson Tait who, in his marvelous success, exultingly proclaims: "I cut anything except the arch of the aorta," to the man who successfully administers even such an anesthetic mixture as that of Schleich. But we are not all geniuses, and to jump from them to servants and first-year students for our anesthetists, if not ridiculous, comes dangerously near deserving the lamented Tait's criticism: "The whole thing is discreditable to our profession and absolutely subservive of any claim it may make as a science." A physician who is to be operated on would take a rather critical look at the person who is to narcotize him, and would most emphatically object to the species I have mentioned. Is not the public entitled to the same safe-guards?

However diversified the opinions as to the relative value and safety of the two great anesthetics, chloroform and ether, one point seems quite observable, the partisan spirit, inimical to scientific approach, which has animated the pros and cons of this great question. Here we will lay aside all prejudices by the simple but effective expedient of barring all comparisons. We are to discuss chloroform anesthesia, and in a still narrower limit the means by which exact dosage may be reached, and the possible benefit to be derived therefrom. Permit me, however, to say that I have taken chloroform to full narcosis twice in one day, three times in one week, and once later on, to such an extent that I was fully saturated with the agent, and in consequence thoroughly poisoned by it; that I have given it several times to those most dear to me in a practice of thirty-two years, have administered it, or had it used for me—in the last half of my professional career almost exclusively by my wife—innumerable times under all phases of surgical work, in all conditions and at all ages of life, with the exception of operations on the eye, ear, nose and throat, and I am still a partisan to chloroform. You will allow that I am cognizant of statistics, which make the danger of chloroform anesthesia 1 death to every 1500 inhalations, also that chloroform is supposed to be five times more dangerous than ether; it certainly is that many times more efficacious as an anesthetic. I am also acquainted with Tallyrand's witty saying: *Messieurs La statistique c'est le mensonge en chiffres,* interpreted as meaning that statistics are a jugglery of figures. To this end I may mention that deaths during ether narcosis occur less often than during chloroform narcosis, but bad consequences, often ending in death, are more frequent after ether narcosis. These deaths should be enumerated in statistics of both agents. Thus conditioned, the statistics of Gurlt, which are overwhelmingly against chloroform, will appear as follows: 11,669 ether administrations with 2 deaths and 8 subsequently, but clearly-referable to the narcotic, give 1 death in 1167 administrations; and in 33,083 chloroform narcoses with 16 deaths during administration and 2 afterward, but attributable to it, we have 1 death in 2647 narcoses—half as many as with ether. But this is not all. Very many patients are constantly turned over to the tender mercy of the supposed greater poison, chloroform, because of the known danger of attempting ether narcosis in them. If all these were also subjected to ether inhalation, the death-rate would increase still more against ether. Besides all this, my partisanship does not allow me to believe that ether ever induced narcosis, unless asphyxia entered as a factor in its production—a weapon rather dangerous to use in most instances. To me there seems not much difference in the method of doing away with the English king's children, and the killing produced by ether inhalations. In justice to yourselves, this divergence was indulged in that you may be in full possession of all factors, to permit you to form such conclusions as my subsequent statements may warrant.

---

*A Lecture delivered, by invitation, to the Faculty and Students of the Omaha Medical College, and by request repeated before the Omaha Medical Society, Dec. 7 and 12, 1899.

I will ask you to review with me a few physiologic data for the better understanding of our theme. It is well to bear in mind one life manifestation of the heart, i. e., its motion and the means by which this is accomplished. We have an undoubted excitability of the muscle-fibers composing the heart, independent of all innervation, a contractility inherent in all protoplasm, the sarcous substance of muscle-fibers not excepted. *The fetal heart in an embryo three months old* shows no sign of nerves, and yet it contracts rythmically even then. Plants are excitable, and yet they have no nerves. It is a very easy matter to put a young plant of the acacia family to sleep with chloroform, and it is perhaps familiar to all how readily the sensitive plant, Mimosa pudica, loses all irritability under the vapor of chloroform. The motility of the heart is influenced in the first place by impediment to food-supply, or the reverse of this, as furnished by the coronary arteries, to the substance of the organ, owing to vasomotor influences on these vessels, as well as to the quantity and quality of the blood furnished to them from the general blood-stream, also to the condition of the blood-vessels themselves, and the fibers composing the heart-muscle. Further, we have to take into account the regulating apparatus furnished by the ganglia and their nerves situated in the substance of the heart itself, and which are regarded as the automatic motive centers of the organ; they excite the cardiac movements, and maintain their rhythm. To these must be added the inhibitory nerve apparatus, which acts as a check to the movements of the heart, and is supplied by branches of the vagus and other nerves. Finally the accelerators, which may be likened to spurs stimulating the flagging heart to quicker action. Both the latter have their centers in the brain, and in their functioning are subject to the same laws and conditions which govern other organs, and furnish a third and very prominent part of the heart's motion. Besides all these, it is necessary not to lose sight of the causes which at any time influence *the quantity and quality of the blood-stream;* this includes the vast blood-vessel system, its anatomic and physiologic anomalies, and the resulting changes in form and function.

A similar elaborate and complex mechanism is presented, by the lungs, which, as the first receptacle of the anesthetic, are surely entitled to as much consideration as the heart, which receives from them the narcotic, and conveys it to all parts of the body. I will, however, mention only the physical points involved, as important to our subject, those pertaining to the capacity of the lungs for air, which in the average man is said to compass 5300 c.c. This quantity of air is divided into the following volumes, which may be in the lungs at the same time:

1. Complemental air, i. e., the air that may be inspired additional to an ordinary inspiration—1600 c.c.
2. Breathing or tidal air, that inspired and expired with each ordinary breath.
3. Reserve air, that which may be expired after an ordinary expiration—500 c.c.
4. Residual air, that which can not be expelled from the lungs by a most forcible expiration—1600 c.c. This is composed of two, almost equal, portions: *a*, the collapse air, which escapes from the lungs when the chest is freely opened, and *b*, the minimal air which remains in the lungs after the thorax is opened.

The breathing or vital capacity is the amount of air which is forced from the lungs after the deepest possible inspiration; it is the sum of the reserve, tidal and complemental air, 1600+500+1600 c.c., or 3700 c.c.

The stationary air is the sum of the reserve and residual air, 1600+1600 c.c., or 3200 c.c., and it is so named because under ordinary circumstances these two volumes of air remain constantly in the lungs.

If now it is assumed that in ordinary breathing, 500 c.c. of air are inhaled, and that 330 c.c. remain and displace the same amount of vitiated air, then the amount of renewal must be the ratio between the air in the lungs *before the inspiration*, i. e., the reserve and residual air (1600+1600 c.c.), 3200 c.c. and the fresh air, 330 c.c. remaining in the lung after each expiration, 330/3200=0.103 per cent. This has been termed the coefficient of respiration, and in the case given shows that only about one-tenth of the air in the lungs is changed with each breath[1].

What can, and really does happen on the operating-table? Normally, the average patient breathes twenty times a minute and inhales during that period twenty times 500 c.c., or 10,000 c.c., i. e., ten liters. However, external or subjective conditions, or both, may contribute to lessen the amount of tidal air, such as fear and hemorrhage, or the amount may be increased to the consumption of all the complemental air, making the amount inspired 2000 instead of 500 c.c., or four times as great! And this is readily accomplished by the anesthetist, by urging the patient to breathe deeply, or by forcibly compressing the thorax, or by the violent efforts of the patient himself, when excited or irritated by too strong an initial dose of the anesthetic. It will not need much urging on my part to convince you that the dose of so strong an agent as chloroform can not be quadrupled without the greatest danger to the recipient, especially if you bear in mind the fact that from 30 to 40 minims of chloroform in the blood of a man of average weight proves a fatal dose. In this connection, and for the sake of completeness, it may be well to mention the A. C. E. mixture, those of chloroform and ether and the Schleich mixture. All aim toward greater safety by meeting physiologic and chemical requirements; and toward accomplishing this by the greater quantities of one or the other ingredient of the mixture, presuming that the larger amounts will furnish the larger quantities of vapor, as demanded. This much-to-be-desired action, however, is only a happy dream. The boiling point of these agents is very far apart: for ether it is 98.5 F.; for benzin, 122-140 F.; for chloroform, 140-142 F., and for alcohol, 172 F. Thus a gram of ether thrown on an Esmarch mask will evaporate in approximately one minute; the same amount of chloroform in 1½ and a gram of alcohol in twelve minutes. Ether, of the specific gravity of 0.72, and chloroform of the specific gravity of 1.497 will form nearly one volume of chloroform to two of ether, and be of equal weight (66 c.c. of chloroform = 137.2 c.c. of ether). Edgar

---

[1] Gage, Simon H.: Reference Handbook of Medical Sciences, vol. iv, p. 208.

B. Truman, after showing that the diffusion of ether vapor, to that of chloroform, is as 100 to 78.8, found that by a gentle heat—between 98 and 104 F.—of equal weights of ether and chloroform, a distillation of 100 volumes of ether, to .953 of chloroform takes place in a little less than half the amount of the mixture and in the residue of a little more than half the amount of the mixture, a distillation of 100 volumes of ether to 75 (!) volumes of chloroform ensues. He comes to this result: "These figures show us the inadvisability of using the mixture of ether and chloroform. To give an inhalation, which may vary between 100 of ether and .9 per cent. of chloroform, and 100 of ether to 75 of chloroform at the ending of an inhalation is clearly a most dangerous proceeding." Besides this, these are all poisons of the same kind, and their admixture can simply serve as diluents of the weaker ones, to the more poisonous one, when being served out on towel or inhaler. But from that moment the anesthetist is utterly at sea regarding the quantities of one or the other of the ingredients he may be administering to the patient at any given time. The object of these mixtures is certainly praiseworthy, but the goal will not be reached until the ingredients are thoroughly combined in their gaseous form and reach the patient's blood in their ideal proportions. In the meantime it may be well to study the action of the gases of benzin and alcohol on the patient, separately, and learn their individual behavior before we mix them up with those of ether and chloroform. Indeed, Dr. Charles Bell Taylor, in the London *Lancet*, expresses himself as being convinced that, if the A. C. E. mixture is nebulized in a globe-inhaler, such as Oppenheimer's, or if nitrous oxid is used as the nebulizing agent of ether alone, one will get an ideal anesthetic. And in his masterful work on Operative Gynecology, Howard A. Kelly writes: "The anesthetic of the future will certainly be given in an atmosphere definitely diluted." Little he dreamed how soon actual practice would make good his assertion.

In regard to the dosage, i. e., the amount to be inhaled in a given time, and the degree of dilution with air when inhaled, the most remarkable differences exist, and many statements are so vague that it is almost impossible to comprehend them. Lord Lister comes to the conclusion that at a temperature of 70 F. the patient would not inhale more than 4.5 per cent. of the anesthetic, even when chloroform—ʒjss—is poured on a towel. Yet Robert Kirk[2] finds that an atmosphere of 5 per cent. is one of overwhelming power, that he can not bring his nose and mouth near it, and that it will kill the strongest rat or mouse in from ten to fifteen seconds. H. Kionka,[3] in his experiments to determine the quantity of chloroform or ether necessary to produce narcosis, found that anesthesia could be obtained with from 0.15 to 1.3 per cent. of chloroform, and from 2.1 to 7.9 per cent. of ether, varying according to the species of animal. A. E. Sanburn shows[4] that chloroform—ʒss—poured on lint, may give off at the earliest inspiration an atmosphere containing more than 9 per cent. of vapor; a percentage known to be dangerous. And then we are surprised that an overdose will kill! It can not be too strongly urged that a correct knowledge of the percentage of chloroform, or its vapor, in a given amount of air to be inhaled and the time consumed for such inhalation, is the basis of all safe anesthetic efforts. It should be remembered that .5 c.c. of chloroform will expand into almost exactly 150 c.c. of chloroform vapor, that such an amount of vapor, added to 1000 c.c. or one liter of air, will give a percentage of 13 volume per cent. of chloroform vapor. It is a well-known fact, as proved by the experiments of Paul Bert and others, that air containing one volume per cent. of chloroform vapor, or about four drops of the anesthetic to the liter of air—1.06 U. S. quarts—can be administered for a long time, even for hours, without producing a decided anesthetic effect, but when a 1.5 per cent. chloroform vapor is used, or six drops of chloroform per liter of air, then narcosis will be initiated, and after an increase of, seldom beyond a 2.5 volume per cent. of chloroform vapor, or ten drops of chloroform per liter of air, a perfect anesthesia will be reached, which can be maintained for hours, with the minimum quantity of chloroform, i. e., 1.5 volume per cent. of the vapor or from ʒviii to ʒix of chloroform for the first hour. Professor Geppert uses about 12 1-6 c.c. of chloroform, and 6.5 c.c. of ether during the first ten minutes of the administration, when full narcosis is usually reached. The following table will show the amounts of each for the ten minutes.

In 1st minute	1.5 of scale represents	0.5 chloroform	0.25 ether.
2d	1.5	1.0	0.5
3d	1.5	1.0	0.5
4th	1.75	1.166	.583
5th	1.75	1.166	.583
6th	2.	1.333	.666
7th	2.	1.333	.666
8th	2.25	1.5	.75
9th	2.25	1.5	.75
10th	2.25	1.666	.833

For ready reference I append another table containing the volume per cent. of chloroform vapor from .5 volume per cent. to 15 volume per cent., and the amount of chloroform vapor contained in each, both approximately given. The table is given chiefly to emphasize *the small amount of chloroform which is necessary to produce anesthesia.*

One liter, or 1000 c.c. of Air +	Chloroform		Chloroform vapor	= Vol. per cent. of chloroform vapor and air	or One liter of a 13 vol. per cent. of chloroform air	+ Liters of air	One liter of a 15 vol. per cent. chloroform air.
0.02 c.c.	or 1.15 drops		or 5.8 c.c.	.5	.25	+	29.
0.04	2.3		11.5	1.	.12	+	14.
0 06	3.4		17.3	1.5	7 6	+	8.8
0.08	4.6		23.	2.	5.5	+	6.3
0.1	5.7		28.8	2.5	4.2	+	4.8
0.12	6.9		34.5	3.	3.3	+	3.8
0.14	8.		40.3	3.5	2.7	+	3.1
0.16	9 2		46	4.	2.2	+	2.5
0.2	11.5		57.5	5.	1.6	+	1.8
0 24	13.8		69.	6.	1.2	+	
0.28	16.		80.5	7.	0.9	+	
0.32	18.3		92.	8.	0.6	+	
0.36	20.6		103.5	9.	0.4	+	
0.40	22.9		115.	10.	0.3	+	
0.44	25 2		126.5	11.	0.2	+	
0.48	27.5		138.	12.	0.1	+	
0 50	30.		150.	13.	0.0	+	
0.60	35.		180.	15.	0.0	+	

There is this difference, however, between the methods of Paul Bert, as modified by Dreser and others, and that of Professor Geppert. In the former, Paul Bert's, a highly diluted chloroform vapor air is furnished, necessitating a large quantity of the mixture and a close fitting mask, so that no additional air can be inhaled, whilst, in Professor Geppert's method, a highly concentrated mixture, but of precise proportion of chloroform and air, is furnished, the dilution being accomplished by the free breathing of air by the patient. In the former case a precisely proportioned chloroform vapor air is furnished to be breathed; in the latter instance, *a uniformly proportioned mixture (vapor air)* is measured out for each minute of inhalation, to be lessened or increased in quantity as the needs of the case may demand, and this uniformly measured quantity is diluted on entering the respiratory apparatus, in the ratio of the number of respirations per minute, and their air-consuming quality, i. e., their depth. It is safe to assume that from 16 to 24 respirations per minute will cover the extremes—one respiration to every four beats of the pulse—and that 250 c.c. (15 cu. in.)

---

[2] British Med. Jour., Jan. 12, 1895.

[3] Archiv. f. Klin. Chir.

[4] British Med. Jour. Dec. 15, 1895.

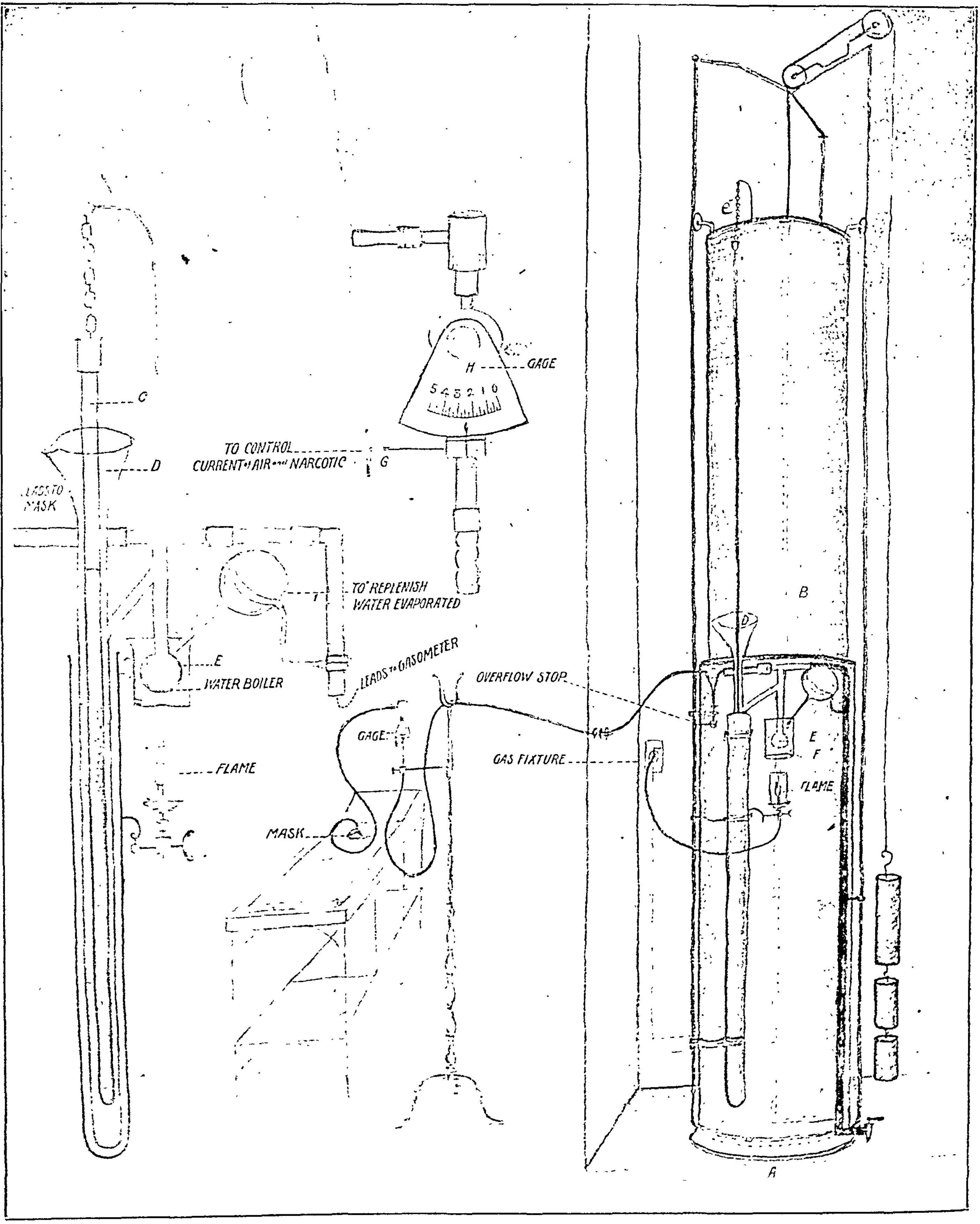
to 325 c.c. (20 cu. in.) of air per respiration is inhaled, setting a limit to the amount of air inhaled—from four to seven liters a minute. This amount of air therefore, forms the basis of dilution of the anesthetic, in whatever manner it is presented to the air-passage. It is, therefore, not altogether a question of the time allowed to elapse during which the anesthetic, drop by drop, is allowed to fall on the mask, though of very great importance in the consideration of the total quantity used in a given time, but of equal importance is the attention given to the percentage of dilution with air in which these drops reach the air-passages. To my mind the ideal drop method is practiced as follows: The chloroform is allowed to drop on an Esmarch mask, as modified by me, and, combining simplicity, cleanliness, and safety; at first, at greater intervals, with the mask some distance from the patient's face; this is brought down to the patient's face very gradually, with some reassuring remarks by the anesthetist; at the end of the second minute the mask will have reached the face and the chloroform will be dropped, one drop a second, until full narcosis is secured; and afterward, as the more painful measures end, one drop every three or four seconds will suffice to maintain perfect insensibility and immobility. If sutures are to be used, or other more painful finishing touches are needed, recourse to the one drop a second measure may be had for a short time, and finally the anesthetic should be removed gradually, exactly as it was commenced. Its sudden removal in the beginning of the narcosis is especially to be eschewed, as also at the close. It is at these periods when the reflexes are present, but may be deranged, that the danger from neuroparalysis is greatest, and the respiration as well as the circulation requires to be watched with the greatest care. It is at these periods, also, that the interruption of the narcotic is followed by a sudden rise of the blood-pressure, which becomes dangerous in the ratio of the lowness of the pressure, preceding the rise, to the weakness of the heart. Death from cerebral apoplexy, in old patients, has taken place at these critical moments. Again, handling the patient roughly, or the accidental display of instruments in the beginning, or of bloody towels and wrappings at the ending of the narcosis has produced fainting, a condition at no time devoid of danger, but especially hazardous during anesthesia. The drop method, employed as I have just described, and, as has been practiced by me for many years, leaves the least to be feared for the safety of the patient.

To form a correct judgment of the safety or danger of the anesthesia in any given case, it is necessary to fully understand the pathologic changes which may be of importance in the course of the narcosis. The special dangers of the intended operation are of secondary importance. The surgeon should, including these factors, form a prognosis of the narcosis, not per se but in its relation to the whole case. The more carefully the existing inferior vitality of the patient, the injury by the operation, and the poisonousness of the anesthetic used are considered, not each one for itself, but each in relation to the other two, the safer will be the prognosis and the less often will unforeseen and disagreeable surprises occur. The scheme of all the existing conditions will appear as shown here.

VITALITY OF PATIENT.			
Inroads on Vitality by:			
Pathological conditions. .	Operation.	Narcotic.	O. Witzel.

When the pathologic conditions plus the operation equal the vitality, then it will be understood that the addition to the duo of the anesthetic will make a sorry trio, and the surgeon will have none of it, nor will the anesthetist, for both will very likely meet with disaster. An operation under such circumstances is unjustifiable, unless demanded by humanitarian interests. Again, if the three—disease, or injury, the operation and the anesthetic—equal the vitality, then the interference should be made only for the purpose of giving the patient a chance, and as little injury should be inflicted and as little of the narcotic used as is compatible with the best interests of the patient. Finally, if the vitality greatly counterbalances the trio, then the case should end favorably, unless the pathologic conditions are undervalued, or misunderstood; the operator endangers the case by mistaken measures, or the anesthetist fails to steer free from all difficulties possible to avoid.

To grasp the action of chloroform in its entirety it is very necessary to understand, once for all, that its influence is not exerted on heart or lungs exclusively, but being the organs more fully and directly exposed to the agent, they are likely to show its influence more vividly to the observer. This does not take into account the reflexes, and very often deleterious influence exerted through the Schneiderian membrane and the mucous membrane of the larynx by the trigeminus and vagus. The fact remains that, little by little, all the body, i. e., its minutest parts, is brought under the paralyzing effect of the anesthetic. This includes the fibers of the heart, the cells of the mucous membrane, and the tissues composing the lungs, the cells of the nerves and their centers, the fibers of the muscles, and the cells of the blood, until, one by one, they go to sleep temporarily or forever. This process takes place first in the organs of animal function, and finally in those of the vegetative functions. This happy sequence is what makes chloroform useful; a reverse process would invariably kill before anesthesia is reached. When vapor of any of the anesthetics, in whatever concentration, finds its way into the blood-stream, it tends to spasmic contraction of all cellular elements of the tissues touched or pervaded; the stronger the concentration, the greater the spasm and the longer the time of its existence. During this period the whole of the lumen of all blood-vessels is narrowed and a higher blood-pressure is recorded. The whole system seems to make an effort to resist the inroads of the poison, and yet during the attempt of exclusion, another and more important action of the narcotic commences; the vapor penetrates into the tissues of the heart and its fibers, into the muscle layer of the blood-vessels and their fibers, into the elastic tissue of these and of the bronchial tree, affecting all alike; they become relaxed to the extent of "falling to pieces." This giving way will necessarily take place first where the vapor appears first and is most concentrated and exerts its strongest influence, i. e., in the heart; the organ succumbs to the blood forced into it by the contracted blood-vessels and dilates, often with amazing and deadly suddenness. This dilatation is followed by the same maneuver in the blood-vessels and capillaries, and in their giving way the blood is emptied into them, and the pressure, high till now, rapidly becomes lower and lower, the typical low pressure of chloroform anesthesia, and to some extent of all anesthetics. The heart, overfilled to dilatation, empties itself, and its walls become flabby. This is the moment of the lowest blood pressure, and of the greatest [illegible] Th[illegible]art, however, continues to make sma[illegible] [illegible]s at contraction, which attain, only after a time, the dignity of rhythmic contraction, though sometimes this state is never regained; then the patient succumbs in primary syncope, and the total collapse of acute chloroform poisoning takes place, which Sajous thus describes: “The appearance of a person in a dead faint, or just after a severe accident, is no more than a shade of that which obtains in chloroform collapse. . . . The light seems to fade from the eyes, as does the color from the cheeks and lips. . . . The eyelids fall open, the eyeballs



are fixed, in the upward position, with pupils fully dilated, as under extreme atropinism. At the same time the cornea becomes glazed and sticky, giving an appearance which, once seen, is never forgotten. And sudden and complete blanching of the face takes place, leaving it of a ghastly, grey hue." But, when from any cause, disease of the lungs, disease of the respiratory nerve-center in the medulla, by the use of an exceedingly concentrated vapor, or a too rapid inhalation of such vapor, the primary spasm in the lungs does not quickly dissolve into the relaxation, already described as occuring elsewhere in the body; then asphyxia must necessarily ensue, and if not quickly relieved, death, from stoppage of the respiration, will be recorded. This is correct if it is not forgotten that the spasms of the heart, and the rest of the circulatory apparatus, contributed largely to bring about and magnify the respiratory disturbance.

One more dangerous action of an anesthetic, especially of chloroform, I must emphasize. Our patient has happily overcome the primary spasm of both circulatory and respiratory organs, and the resulting relaxation of them has been safely adjusted by a happy compensation; or all of these dangers have been avoided—and it can be done in most cases by such an administration of the narcotic, that a restlessly sleeping child will not be disturbed by it in the least; neither coughing, gasping, choking nor struggling will appear, for all these are not only signs of an incorrect administration, but really danger-signals, to be carefully heeded—and yet, little by little the patient shows signs of impending danger and death. What is happening? The reflexes, the things that have given us so much annoyance, at first are abolished. The anesthetist, if he is thoroughly competent, steps in to take their place; he knows every sign and its interpretation, and all is well. But, if the calm, disturbed only by the operator, is not rightly interpreted, and the administrator allows himself to be infected by it, he will continue the anesthetic, little by little, until the nerves become insensible and refuse to convey impressions; then the cerebrum stops recording, consciousness is abolished, the spinal cord fails and motion and feeling are things of the past; then the medulla oblongata is invaded and the centers of circulation and respiration are lulled to rest; and finally the very ganglia of the heart substance cease their function. Slowly, step by step, the poison has overcome all the parts of the body, the patient dies from a poisonous dose, accumulatively administered. Thus we are brought face to face with the fact that chloroform or any other narcotic is dangerous to the recipient, be the method what it pleases—and all surgeons anxiously await the coming of a new agent, or of a new method for the administration of the old ones. So far the hope for better things has not been realized. To obtain the full effect of the anesthetic, it is quite necessary that the ingredients be in the form of a vapor, to be inhaled by the patient in exactly measured quantities, in a given time, and diluted to a known strength, with air. This great object, Prof. J. Geppert claims to have attained in the construction of the apparatus here shown.

It will be observed that this apparatus consists of a gasometer (*a*) of known capacity, to the upper chamber (*b*) of which a glass rod (*c*) is attached, which, with the falling of the chamber, as the air escapes from it, drops into a glass tube (*d*) containing the anesthetic. The rod forces the narcotic into a bulb (*e*), which is surrounded by water (*f*) somewhere near, but below, the boiling point. Thus the anesthetic in Geppert's use—two volumes of chloroform and one of ether or, by weight, 300 grams of chloroform to 70 grams of ether—is gradually forced into the bulb and vaporized, and escapes in known proportions of .4 to .5 c.c. of chloroform and half that quantity of ether to the liter of air, from the larger apparatus, and .6 c.c. of chloroform and .3 c.c. of ether to the liter of air from the smaller apparatus. These definite amounts of air and narcotics may always be measured in exact proportions, as the administrator may desire, by the opening of the faucet (*g*) near the gauge (*h*), which indicates the exact amount of the narcotic evaporated for each minute; so that the patient may inhale, at the commencement of the administration, bare traces of the narcotics, by the admission of great quantities of air from the room, until very gradually, however, he uses up from 2½ to 3 volumes of the compound vapor to every 97½ to 97 volumes of air, a percentage sufficing in most cases for a complete narcosis; this may be maintained for a shorter or longer time with a 1.5 volume per cent. of vaporized air, to the full satisfaction of the operator, and, what is more important, to the greatest attainable safety of the patient during and after the anesthesia.

To make the matter still more clear I will repeat the amounts of the narcotics needed in cubic centimeters. The narcosis will be initiated, as already stated, which can not be done too often or too emphatically, *in the most gradual manner*, until a strength of the vaporized air is reached which contains for the minute's time 1 2/3 c.c. of chloroform and 5/6 c.c. of ether, to 2 c.c. of chloroform and 1 c.c. of ether. However, the first amount given is seldom exceeded to attain a complete narcosis; and is reached in about eight to ten minutes. After the use of this quantity of this mixture for a few minutes, when the most severe surgical measures, causing pain and shock, will have been initiated, or concluded, the anesthetist in most cases will be able to return to the dose which, in most animals and also man, will initiate and maintain anesthesia: 1 c.c. of chloroform and .5 c.c. of ether per minute of inhalations.

In women this point may lie just a little below, and in men a little above these figures. Thus, instead of using the narcotics themselves, as in Krohne's perfected method, measuring the narcotics and the air at each inspiration of the patient, the narcotic, in the form of vapor and in exact proportion to the air, is furnished by the apparatus; and all the administrator has to do is to let the patient inhale them, increasing or lessening the quantity as the needs of the case may require, by simply opening or closing the faucet near the gauge, more or less. The apparatus is, so to speak, the scale on which the chloroform vapor is weighed. It exactly marks the dose which is conveyed by it, but it does not prevent the giving of too large a dose; neither does it exclude the need of the administrator's attention to the free and unobstructed breathing of the patient. In fact, it is not a substitute for knowledge and judgment, which the anesthetist himself should have and exercise.

Professor Geppert's method contains the elements of the ideal one of the future, the one which will be robbed *of all the terrors of our past experience.* I sincerely believe that the apparatus of Geppert is one of the many great inventions of the century.

I acknowledge with many thanks the assistance of Professor White, of the University of Nebraska, in the making of a temporary apparatus of Geppert, for exhibition; and that of Mrs. Jessie Laverty, for the reproduction, in large size, in crayon, of a picture of the apparatus, from the *Deutsche Med. Woch.*, No. 27.

USE OF ATROPIN SULPHATE AS A MEANS OF DIAGNOSIS IN CERTAIN PERSISTENT HEADACHES.*

BY OTTO LANDMAN, M.D.
TOLEDO, OHIO.

This paper deals with the determination of the etiology of some forms of persistent headaches. The method under consideration will save time, is coupled with a great degree of accuracy, and requires no special knowledge of refraction and its correction by glasses. It will enable us to exclude other conditions as causes of certain persistent headaches, and consists simply in the use of a solution of sulphate of atropin instilled into the eyes. The method should be employed to determine the cause of persistent headaches.

It is probable that the results obtained are due to the effect of the drug on the innervation of the ciliary muscle, for after the accommodative power returns the headaches often reappear.

Concerning the explanations of headaches we may say that, in general, they are produced by some kind of irritation of the filaments of the fifth nerve, which supplies the dura mater. The following hypothesis is offered to explain the manner in which the eye strain produces headaches. The ophthalmic or lenticular ganglion receives fibers from the fifth, the third and sympathetic nerves. The third nerve, through the medium of this ganglion, furnishes fibers to the ciliary muscle. It can be imagined that any excessive strain thrown on this muscle may, through a close anatomic connection with the fifth and sympathetic, induce, either directly or reflexly, an effect on the final terminations of the fifth in the dura mater, resulting in headache. Be that as it may, we know that some headaches, situated within the calvarium, are relieved, or even cured, by the use of glasses which remove the strain from the ciliary muscles; and, moreover, an analysis of a sufficient number of cases that have come for relief of headaches shows that the use of atropin sulphate, which paralyzes the ciliary muscle, dispels the headaches in just such cases. There is a striking and close analogy between the ultimate effects of glasses and of atropin sulphate on the ciliary muscle.

The headaches which are most frequently produced by ocular defects are situated, as to their frequency, in my observation, in the following regions: supraciliary, occipital, occipitofrontal, vertex and temporal.

When there is a general headache, that is, one equal in all parts of the head, it is due to some general depraved state of the system. I wish to allude to one kind of headache, namely, one situated on the *top of the head*, the vertex, having an area about the size of a silver dollar, circumscribed and associated with *tenderness of the scalp*, which is almost invariably due to eye strain, and often amenable to treatment by the use of glasses. The clavus hystericus belongs to this class.

Dizziness, when caused by eye strain, will often be relieved by paralysis of the ciliary muscle with atropin sulphate, and can be permanently abolished by glasses. The conclusion is that when a persistent headache, situated in any of these localities, disappears on atropin being used in the manner directed, the case is probably due to eye strain and can be remedied by properly adjusted glasses. To obtain the result, the atropin must be pushed to the complete suspension of accommodation. *The directions for use are simple:* A solution of 1/4 *gr.* of sulphate of atropin to two drams of water, with directions to drop three drops in each eye, three times a day, until ten instillations have been made. When, on the return of the patient after the use of the atropin, we find that the headaches have disappeared, then a favorable prognosis for the dissipation of the headaches, through correcting lenses, can be given. There is one general caution to be observed, and that is the careful use of atropin in older persons. In increased ocular tension it should never be used.

230 Michigan Street.

---

*Read before the Toledo Medical Club.

SOME OF THE ASPECTS OF RENAL INADEQUACY FROM A NEUROPATHIC STANDPOINT.

BY H. A. TOMLINSON, M.D.
SUPERINTENDENT ST. PETER STATE HOSPITAL.
ST. PETER, MINN.

(Continued from page 856.)

A. I., a male, farmer, aged 54, Irish, married, was admitted June 22, 1897. Nothing of the family history could be learned, except that the parents and several relatives had suffered from rheumatism, and very little of the life history of the patient could be obtained. He had worked eighteen years in a coal mine, was always intemperate, and during the last few years after a spree he would be confused, irritable, incoherent and violent, with a disposition to wander away from home. When admitted he was fairly well nourished, weighed 130 pounds, had a fair appetite but slept poorly. He had a shambling gait, there was partial paralysis of the right arm and hand, some paresis of the lower limbs and the patellar reflex was absent. He was depressed, his expression listless and vacant and memory poor. There was paraphasia, he could not tell his name, and he had difficulty in naming simple objects, although he knew their uses. He could not read nor write.

Uranalysis showed 1600 c. c. in twenty-four hours, sp. gr. 1025, yellow, translucent, reaction acid, uric acid .04 per cent., urea 1.09 per cent., indican 3 per cent., phosphates increased, sulphates normal, chlorids 8 per cent.; no albumin, peptone nor sugar. The microscopy showed nothing abnormal. He improved physically, gained in weight, the paresis improved, the knee-jerk returned, and the paraphasia almost completely disappeared. Some time afterward he complained of feeling bad, had a cough and some dyspnea, and a week later these symptoms returned, he had pain in the abdomen and vomiting after eating. Respiration was labored and he became feeble. He became obstinately constipated and there was a slight elevation of temperature. A few days later he became suddenly unconscious, his face was pale, there was marked twitching of the limbs, respiration was rapid and shallow, harsh and difficult, pulse slow, full, regular and of high tension. He perspired freely during the night and was better in the morning, but very restless. The urine was examined with the following results: amount in twenty-four hours, 500 c. c.; sp. gr. 1016; acid; yellow; translucent; uric acid, .06 per cent.; urea, 3 per cent.; phosphoric acid, .25 per cent.; indican, 2.5 per cent.; sulphates diminished; chlorids, 28 per cent. There were traces of peptone, but no albumin nor sugar. The microscopy showed renal epithelium and a few leucocytes. He improved rapidly and soon regained his former fair health. About two months afterward, while out walking, he fell suddenly, with a cry, and became unconscious. His face was cyanotic, pupils contracted to a pin-point size, the arms and legs twitched and jerked, both sides apparently equally affected. The respiration was slow and deep, pulse 90 and feeble. The surface of the body was covered with cold perspiration. After about twenty minutes he began to regain consciousness, vomited some undigested food and was soon able to walk to the house. During the next twenty-four hours he passed 300 c. c. of urine, sp. gr. 1016, acid, yellow, translucent, uric acid .09 per cent., urea 1.2 per cent., phosphoric acid .14 per cent., indican 2 per cent., sulphates 1 per cent., chlorids .6 per cent., no albumin nor sugar. The microscopy showed leucocytes and renal epithelium. At the present time this patient is in fair health, has a good appetite and sleeps well. He is rather stupid and indifferent, but answers ordinary questions fairly well, takes a moderate amount of exercise, but does not otherwise occupy himself. The following is the result of the last uranalysis: amount in twenty-four hours, 700 c. c.; sp. gr., 1020; acid; yellow; clear; uric acid, .03 per cent.; urea, 2 per cent.; phosphates and indican, normal; sulphates, 2 per cent.; chlorids, 12 per cent.; no albumin, peptone nor sugar. The microscopy shows cylindroids.

S. S. was admitted Aug. 6, 1895. He was born in Sweden, 78 years ago, was a widower, and a day laborer. Very little could be learned of his family history. The father died at 62 years of age, of "dysentery;" the mother at the age of 82, of "old age." One sister died of "dropsy" at 9 years of age; another sister was peculiar. The mother had been hemiplegic for some years before her death. There is no record of the early life of the patient. He suffered from "rheumatism" during adult life and for the past few years has been nervous and irritable. A short time before he was committed to the hospital, during a fit of despondency, he shot himself, with suicidal intent. The following is a record of his physical condition at the time he came into the hospital: temperature normal; pulse 60, full but intermittent; respiration fairly deep, rate 18; arteries atheromatous; depression in both supraclavicular regions; respiratory murmur roughened over both lungs, resonance increased. He had an umbilical hernia. The tongue was clean, digestion fairly good. There was some senile tremor of the tongue and limbs and inco-ordination. Uranalysis showed: sp. gr., 1023; urea, 2 per cent.; no albumin, sugar nor casts. He improved physically, became more cheerful, was quiet and well behaved, but steadily grew more demented. He was in bed for a month in the fall of 1896, complaining of pain in the body and limbs, and weakness. During this time there was retention of urine, which was decreased in amount, of low specific gravity, contained some leucocyte casts but no albumin. The phosphates and sulphates were normal, but the chlorids were decreased. There was no material change in his condition during the next year. He complained more or less of pain, from time to time suffered from retention of urine, was in and out of bed, feeble, but took a fair amount of nourishment and slept well. In the beginning of October, 1898, he grew more feeble and stupid, unable to help himself. There was incontinence of both urine and feces. In the latter part of the month he developed some congestion of the lungs, coughed and expectorated. The sputa contained streptococci and staphylococci, but no tubercle bacilli. Uranalysis showed 1175 c.c. in twenty-four hours; sp. gr. 1018; acid; urea 1.7 per cent., phosphoric acid .0001 per cent., sulphates 2 per cent., chlorids 7 per cent., no albumin nor sugar. Microscopy showed numerous leucocytes and fibrin bands. There developed some hypostatic pneumonia with dilatation of the right heart. This condition improved after a time and he was up and about the ward, but went to bed again early in the fall of 1898. He was very feeble, irritable, nervous, confused and suspicious all the time, but always much worse during the exacerbations of his physical disturbance. In December, 1898, he developed a left hemiplegia, the arm being first involved, then the leg and face. He complained of general pains, was very restless and constantly trying to get out of bed. At this time uranalysis showed the following: amount in twenty-four hours, 600 c.c.; sp. gr., 1015; urea, 2.8 per cent.; phosphoric acid, .2 per cent.; sulphates, 2 per cent.; chlorids, 34 per cent.; no sugar nor albumin. Microscopy revealed amorphous uric acid. He grew steadily weaker and died Jan. 12, 1899.

At the necropsy, there was some fluid in the subdural space, the membrane was smooth except at the vertex, where it was adherent to the skull and pia, and there was marked adhesion at the base. There was a chicken-fat clot in the anterior third of the left lateral sinus, and the others were filled with dark clots. There was 135 c.c. of cerebrospinal fluid; the thickness of the pia was increased and the surface of the convexity covered with opaque patches. The vessels contained fluid blood and some gas. The brain weighed 1485 grams; 3 cm. from the longitudinal fissure on the right side, the dura and pia were adherent to the precentral convolution, the point of adhesion having the appearance of an old scar 2 cm. in diameter. There were small points of adhesion over the postcentral convolution on the left side, 2 cm. from the longitudinal fissure. There was serous effusion over the whole convexity, most marked over the Rolandic area on the left side. There was a subcortical cyst involving all three occipital convolutions toward their external surface, on the right side, also marked atheroma of the arteries at the base, and the carotids were aneurysmally enlarged at their exit from the bone. There was atrophy of the cortex in the region of the operculum, so that the insula was partially uncovered on both sides. Aside from these external evidences of degeneration, there was no gross lesion of the brain substance, but well defined in the floor of the fourth ventricle the condition previously described as characteristic of death from uremia was evident: edema of the ependyma of the fourth ventricle, with intense injection of the vessels. The viscera in the chest and abdominal cavity showed marked evidence of degenerative change. The right kidney weighed 120 grams. There was a large cyst on the convexity, which contained 25 grams of urine. The capsule stripped fairly readily, the surface of the kidney was covered with small cyst scars. The left kidney weighed 132 grams; there was marked atrophy of kidney substance on the anterior surface exposing the pelvis. The capsule stripped fairly readily and the physical conditions were practically the same as in the other kidney. The degeneration in these kidneys was as nearly a pure atrophy, without increase of connective tissue, as I ever saw. The bladder was almost empty, its walls very much thickened, and it contained about a gram of sandy particles.

I record the following case not so much on account of the association between the condition of the urine and the symptoms manifested, but because it is typical of a class of cases very common with us. The mental symptoms are characteristic and quite similar to those manifested in cases of urinemia associated with chronic degenerative disease of the kidney among the sane, differing only in degree.

H. M. A., male, aged 45, Canadian, salesman, married but divorced, was admitted Sept. 26, 1898. The family history was negative. The parents married young, were healthy, and had eleven children, four of whom are dead the cause unknown. The patient was healthy as a child and showed no peculiarities of temper or disposition. Little information could be gained as to the history of his adult life, except that he drank to excess. There were some darkly-pigmented spots over each tibia, and some suspicious ulcers in the lumbar and sacral region. The ulcers healed rapidly under specific treatment. The genitalia were atrophied, but no scars could be detected. There was some ulceration along the posterior pillars of the pharynx. About two years ago he was "paralyzed." There was no history of this attack except that it came on suddenly, and the patient, on waking in the morning, found that he could not move his body or limbs. The paralysis gradually disappeared, but he was no longer able to do any work. About three months before admission he began to be emotional, irritable, confused, could not remember what was said to him, and was childish in conduct and conversation. He was in a city hospital one week before coming to St. Peter, and was said to have been violently maniacal during a part of that time. His examination on admission to this hospital disclosed the following conditions: height, 5 feet 7 inches; weight, 123 pounds, frame slender, nutrition impaired, flesh soft, skin inelastic; temperature, 98.6; pulse, 58, regular and of fair volume; respiratory rate 14. The relative heart dulness was increased downward and to the left, and a musical murmur, systolic in time, was heard in the second intercostal space on the left side near the sternum. The arteries were sclerosed. There was no evidence of disease in the lungs, and the appetite and digestion were not impaired. The muscles of the face and tongue were not affected, the pupils and the ocular reflexes normal, superficial reflexes present, knee-jerk exaggerated, co-ordination in the arms and legs poor. There was some disturbance of sensation, shown by hyperesthesia to heat and delayed recognition of cold.

Uranalysis showed 1575 c.c. in twenty-four hours, sp. gr. 1010, yellow, opaque, alkaline, urea 1.5 per cent., phosphoric acid .2 per cent., sulphates and chlorids increased, albumin 2 per cent., some peptone. Microscopy revealed numerous leucocytes. The patient was listless, careless and indifferent, unsteady in gait, suffered from incontinence of urine, but was constipated. His memory and mental reflexes were fairly active. He conversed freely and was quiet and agreeable. During the next two months he gained twenty-five pounds in weight, and was able to do light work about the sick room and ward. At times he complained of feeling ill and said his limbs ached. He could sleep during the day and said his left leg became numb when he sat long in one place. One morning, soon after, he was found unable to move his right arm or leg, was unable to speak, and his head was drawn to the left. The temperature was 103.4, pulse 92, full and regular, and respiration 24. He vomited some blood-stained mucus. His bowels were confined and there was retention of urine; 775 c. c. of dark yellow, alkaline urine was obtained by the catheter. The sp. gr. was 1024, urea 2.8 per cent., phosphoric acid .2 per cent., sulphates 2 per cent., chlorids 25 per cent. There was a trace of albumin, but no peptone nor sugar. Microscopy showed nothing abnormal. (The conditions producing the high temperature accounted for the increase of chlorids at this time.) The temperature remained close to 104 F. He would suddenly turn his head to the right and throw his arm to the right and backward. These movements continued for a quarter of an hour, being violent at first, but gradually decreasing to the point of complete relaxation. These convulsive movements were repeated at intervals of an hour, and were accompanied by incoherent muttering. He took a little milk, but swallowed with difficulty and had to be catheterized at intervals. On the third day of the attack, 1100 c.c. of urine was collected: sp. gr. 1022; acid; urea, 3 per cent.; phosphoric acid, .2 per cent.; sulphates, .2 per cent.; chlorids, 6 per cent.; a trace of albumin, but no sugar nor peptone. On the fourth day the temperature came down to 99.6 F., and he seemed much brighter and there was some slight return of motion, first in the leg and then in the fingers and forearm. He apparently heard when spoken to, but could not answer nor make any sound. He was restless, appeared uncomfortable, would pull at the bedclothing and attempt to grasp the bed-post. In these attempts his hand would fail to reach the object, on account of its being carried too far to the left and not far enough to reach the object. At the same time he would mutter incoherently to himself. He would reach out into space and would bring his hand to his lips and make movements as though eating and drinking. At times he would be apparently listening, and again would make gestures and sounds as though conversing with another. In another day he could repeat parts of a sentence, but there was paraphasia. Names of objects bothered him. When asked to name an object held before him, such as a pencil, key, watch, etc., he failed to find the word, but when asked what it was used for, he readily described its use and then named it. He had no difficulty in reading or writing. At night he was restless and wakeful. He was very much confused for a few days. In the morning he would give an account of how he had spent the night, saying he had walked a great distance, taken a ride on a boat and been shipwrecked. He imagined people were talking about him and at times did not know where he was. He thought he was in a different room or house and believed that he was frequently moved about. The paralysis gradually disappeared, he passed his urine voluntarily, conversed fairly intelligently, but was still restless at night. His appetite improved, he was soon able to be up and about, was cheerful and went to work again. Uranalysis showed 1600 c.c. in twenty-four hours, sp. gr. 1025, dark yellow, clear, acid, urea 2.2 per cent., phosphoric acid .15 per cent., sulphates 1 per cent., chlorids 20 per cent., no albumin, peptone nor sugar. Microscopy revealed leucocyte casts.

The following conclusions seem to me to be warranted by our study of the clinical aspects of renal inadequacy during the past five years, supplemented by the uranalysis and post-mortem verification of the deductions made.

Renal inadequacy as a temporary condition, not necessarily dependent on histologic changes in the kidney structure, is quite common, especially during adult life and after.

There is definite clinical evidence that in some people renal inadequacy is congenital and dependent on limited potentiality—usually nervous—in the individual affected.

The amount of the total solids in the urine, or the presence or absence of albumin or casts, furnishes no direct evidence of impending urinemia, but the relative proportion of the solid constituents to each other does furnish such evidence.

In my experience, when the quantity of urine is decreased below 1000 c.c., urea below 2 per cent., chlorids below 10 per cent., while the phosphoric acid is increased above .2 per cent, the sulphates above 1.5 per cent., urinemia is present or impending. The importance of the elimination of the chlorids is apparent when we remember the effect of sodium and potassium on the nervous system, and the reduction in the relative quantity eliminated is the most constant change in the constitution of the urine of uremic patients. The increase of phosphoric acid and sulphates is the result of the nervous disturbance caused by the uremia, rather than in any sense a factor in its causation, while the relative amount of urea is not so certain a test and often misleading in the chronic form of uremia. In the acute explosive form, with syncopal attacks or convulsive outbreaks, the marked reduction in the relative proportion of urea is quite constant. In other words, as would be expected from the pathology of the condition, urea is most apt to be diminished in parenchymatous nephritis.

The apparent contradictions in the tables given are explained by the presence of other disease conditions in the individual at the time, which materially modify the ordinary processes of metabolism.

The fact that the usual symptoms of urinemia may not be present in cases where profound degenerative changes in the kidney are found, post-mortem, is partially explained by the establishment of tolerance of the nervous system to the presence of the toxic substancs in the blood, and further exemplified by the finding of one or more pyramids in each kidney, with the surrounding cortex in good working order.

The symptoms of chronic urinemia are most marked in cases of interstitial nephritis, and it is in this class of cases that the hemiplegias and partial paralyses, with mental disturbance, most frequently occur, while in parenchymatous nephritis the sudden uremic explosions with convulsions and stupor are most common, and in this class of cases, for obvious reasons, sudden death following renal congestion is most apt to occur. At the same time, the fact must be kept in mind that, as we rarely have a purely structural or parenchymatous change in any organ, cases of nephritis are apt to be of mixed form—especially those of alcoholic origin—and consequently the clinical picture furnished by each will run into the other and be present in varying degrees in the same case.

The hemiplegias and other paralyses due to uremia are to be distinguished from those due to cerebral hemorrhage, by the fact that all of the muscles are not involved, that the loss of power is seldom complete and that the degree to which different groups of muscles are affected will vary from day to day, also that the complete loss of power is quite temporary, although there may be a permanent paresis.

That simple interference, with metabolism and the resulting loss of vitality with impairment of the nutrition of the general organism, will not produce the conditions necessary to the development of urinemia is apparent in the history of the numerous disease processes which do interfere with nutrition and impair vitality; while the sudden appearance of the uremic storm in an individual apparently free from disease, makes it evident that there are other factors in the production of urinemia than those with which we are yet familiar. To my way of thinking the principal one of these is the nervous system and the influence it has on the activity of the kidney independently of its function as a filter. The analogy between the symptoms of shock and certain manifestations of uremia is suggestive, and so is the close resemblance between the symptoms of apoplexy due to cerebral hemorrhage and the same condition resulting from uremia. Then again, failure in the functional activity of the kidney is quite commonly manifested in those vegetative organs with which it is most intimately associated in its nervous supply, as represented in the familiar gastric crises and apparently causeless attacks of diarrhea associated with the progress of chronic interstitial nephritis. Again, pleural effusion, bronchopneumonia or pulmonary edema, with dilatation of the right heart, may be the only symptoms manifested during the illness of the patient, and the necropsy reveal extensive degenerative changes in the kidney. Now, the association of the kidney with those organs supplied by the pneumogastric and phrenic nerves is principally through the suprarenal gland, and, so far as my observation goes, this gland is always involved in the degenerative process affecting the kidney—the change being atrophic in chronic interstitial nephritis and cystic in the parenchymatous form. This gland is also quite commonly infected by the tubercle bacillus and the pus-forming bacteria. when there is a similar infection of the kidney. It is further worthy of note that when degenerative change in the kidney manifests itself through disease processes in the vegetative organs, the nervous system is practically never directly involved and such nervous symptoms as do develop are secondary to the visceral disease. The converse of this obtains where the urinemia affects the nervous system primarily and the pulmonary edema and cardiac failure only appear after the intoxication becomes so profound that dissolution is imminent.

While many of the conclusions offered in this paper are in a measure speculative, still they are all founded on clinical experience and pathologic study. They have suggested to me a reasonable explanation of some of the many obscure conditions met with in hospital and general practice, and furthermore, they are in line with current physiologic speculation concerning the probability that each vegetative organ has a secretion peculiar to itself, which not only affects its own functional activity but also the vitality of the organism as a whole.

SHOULDER-HUMERO-SCAPULA ARTICULATION.

SOME OF THE COMPLICATIONS AND SEQUELAE ATTENDING OR FOLLOWING REDUCIBLE OR IRREDUCIBLE DISLOCATIONS, WITH A BRIEF REVIEW OF THE VARIOUS MODERN OPERATIVE MEASURES NOW EMPLOYED FOR THEIR TREATMENT.

BY THOMAS H. MANLEY, M.D.
Visiting Surgeon to the Harlem Hospital; Professor of Surgery in the New York School of Clinical Medicine.
NEW YORK CITY.

(Continued from page 860.)

ARTHROTOMY OR REDUCTION.

When it is decided to be expedient or imperative to operate on an arm which resists reduction by ordinary methods, the question arises as to whether we will expose the articular head by a free incision, and remove it through the anatomic neck, or rather preserve and restore it by an arthrotomy. On this point surgeons are not in complete accord.

Resection is much the simpler procedure. The capsule is preserved and the attachments of the deep pronators are maintained, but the articulation is destroyed; an important anatomic structure is gone.

Arthrotomy and forcible reduction of the head usually entails an extensive mutilation and free hemorrhage. Sometimes all the muscular attachments to the outer head must be divided, and if the circumflex nerve has suffered damage, or if there be an osseous lesion, after the head is replaced it can [illegible] be r[illegible]ed. “Bloody reduction,” says Knapp, “[illegible] is not without serious results." He collected 12 cases; 3 deaths, with but 4 materially improved; while in 20 resections there were 4 deaths, and 16 fairly good results.

Delbet, while rather a partisan of arthrotomy, confesses that on the whole the ultimate functional results are better after resection.

In 37 cases of resection recorded by Lund, the result was good in 16, in 5 mediocre, in 2 bad, unknown in 6; 5 patients died as a result of the operation.

Resection of the humeral head should be followed by no mortality whatever. With those cases ending mortally, it is probable that resection was only resorted to when arthrotomy had failed, when retention was impossible and, as a forlorn hope, the articular head was sacrificed; not, however, until exsanguination was great and shock profound, and there had been extensive laceration of the tissues.

Tuffier believes that the functional results are much better after arthrotomy. He would, therefore, prefer arthrotomy as a primary endeavor, and then, if the exploratory incision revealed an osseous lesion, he would resect the head.

Schede insists *that the effects on function are always* very much better after operative reduction than after excision of the humeral head.

Delorme, in all old cases, resects the head. He records an example, after subspinous displacement, when this was followed by excellent shoulder action.

From the foregoing, and from a rational view of the subject, based on our knowledge of the character of structural disorganization present, in recent irreducible dislocations, it is evident that if sanguineous measures are decided on, an *exploratory* arthrotomy should be first undertaken; then, should we detect a fracture through the apophyses of the humerus or of its necks or through the glenoid fossa, as a second and final step it may be found necessary, as a complementary measure, to resect the head.

In old dislocations attended with painful ankylosis or disability, after organic changes have set in, when the muscles have wasted and the humeral head has undergone degenerative changes, arthrotomy with forced reduction should not be undertaken; but a simple and comparatively bloodless resection should, in every instance, have the preference.

ARTHROTOMY OR RESECTION IN HABITUAL OR PERSISTENT LUXATION.

The head of the humerus, once completely luxated, is liable for some time after reduction, on any sudden or vigorous movement, to again suffer displacement. In some, after reduction, it can not be retained in the position completely; the head tends to droop forward or outward; there is essentially a state of subluxation, and in various accentuated cases of this type, it has been sometimes denied that the head was ever reduced at all. These cases are sometimes a most painful and troublesome cause of expensive civil action for the surgeon. The deltoid has sustained violent over-tension, and slowly, if ever again, recovers its full tone; or perchance, the circumflex nerve is involved. Again. there are cases. happily very rare, in which, though reduction is easy. the weight of the arm is enough to drag the articular head completely out of the glenoid cavity.

Arthrotomy with excision of the head has served a most useful purpose in many cases of habitual or recurring shoulder luxation. although other methods are in vogue which appear. in the hands of some surgeons, to have been effective in overcoming the tendency to recurrence of luxation. A remarkable case of the above class is published by Platt, from Mr. Southam's service. The patient was an epileptic, 45 years old, whose shoulder had been dislocated about fifty times. Excision of the humeral head resulted in a very useful arm.

In those cases which have been treated by resection it is remarkable to note the extent of *restitutio ad integrum* by Nature's unaided efforts. Thus Chassier, Roux, Hutchinson notably, have published the results of their examinations of shoulders post-mortem, in which the humeral head has been resected from three months to twenty years. In all they have found stout bands of fibrous tissue firmly joining the end of the humerus to the scapula. Dr. Souchon makes an extended note on this important post-operative state of the parts.

TECHNIQUE: MODE OF OPERATIVE PROCEDURE: ILLUSTRATIVE CASES.

Lord Lister was the first who recommended and performed arthrotomy as an *en courant* procedure for fracture of the patella with extensive displacement of the fragments; and in 1887 he performed for the first time, arthrotomy for double shoulder dislocation. The dislocations were subcoracoid of eight weeks' standing, in a man of good muscular development. He commenced by making a vertical incision along the inner aspect of the deltoid. This brought him down on the tendon of the subscapularis muscle, which he divided with the external rotators, when traction was applied with pulleys and failed. Then all the internal rotators were severed and the pulleys again applied, when the head went into position. The result being very unsatisfactory, after two weeks the other point was similarly treated with the same results, the bone going into place at first efforts with the pulleys. Another similar case shortly after came under Lister's care for double dislocation of seven months' standing, in an epileptic. On free section of the rotators, with the aid of traction, the bone went readily into place. Six months later the other point was opened, and a resection of the head made. Both these cases yielded excellent results, and were presented before the Hunterian Society of London.

Lord Lister advises that in all old cases, the first step should be to expose the head and raise it well, and free it from any adhesions before traction is commenced, in order that the dangers may be obviated which arise from possible adhesions of the larger blood trunks with the head of the humerus. After this step, all the rotators should be divided and traction applied. This failing, we should excise the head.

Sir William MacCormick, assisted by Lord Lister, reduced the humeral head with great difficulty after arthrotomy, but suppuration followed, and later section through the anatomic head had to be done.

Cotterill replaced the heads of two dislocated humeri by section; one of the cases being of four and a half months' standing. All the muscular attachments to the outer head were divided and the capsule opened, when the glenoid cavity was found partly filled by fibrous material. The bone was, however, replaced but suppuration followed, though later the wound healed and some joint action followed. In the second case, six weeks old, on section it was found that the glenoid base was segmented by a fracture. The bone was replaced. In both of these cases there was paralysis of the limb before operation, which entirely disappeared and a fair degree of function was recovered.

Cotterill believes that the comparative value of this operation can not be yet determined.

Mayo Robson exposed the articular head and opened the capsule. He found the glenoid cavity quite obliterated; he then closed the wound, leaving the head *in statu quo*. Some movement in the arm followed.

Watson Cheyne and Pearce Gould have restored the displaced head by arthrotomy with good ultimate functional results.

Mr. Edward Owen has treated three old irreducible cases, two women, by excision of the head. He made a clean vertical incision, exposed the head freely after dividing all its muscular attachments, and then excised it with a saw. Owen calls attention to the great danger to life from very violent traction in old dislocations. He regards anything past "eight weeks" an old dislocation, and beyond the time when forcible reduction could be safely undertaken. In his three cases useful joints were secured.

Lucas-Championniere declares that the relative value of arthrotomy and excision of the humeral head should not admit of controversy; but that the head should never be cleared away unless its replacement is impossible or it gives rise to painful conditions in its new situation. He even goes further and advises against operative procedures under any circumstances, unless the functional power of the limb is seriously compromised. He then narrates the case of a physician who had a dislocated shoulder which gave him so little trouble that he was unaware of its existence until his attention was called to the deformity by a confrère. Velpeau, under whose care he came, advised non-interference.

MODE OF INCISION. THE TRANS-SCAPULA-OSSEO-MUSCULAR FLAPS, ETC.

All our modern operative methods of dealing with irreducible shoulder dislocations entail a large open wound, that the deep parts be denuded and freely exposed.

What constitutes the greatest objection to the operative reduction of shoulder luxations is the extensive division of the soft parts, of the integral structures of the joint. Hemorrhage is free, but not difficult to control.

When the head is deeply locked, through a lacerated capsule, between or under contracted muscles, a large dissection must be made, and even then, so much traction and torsion on the humeral shaft are sometimes necessary that the parts are freely lacerated or contused; hence, their vital resistance being reduced, the tendency to infection and suppuration after arthrotomy is great.

Ollier noticed the uncertain position of the circumflex nerve, and the danger of wounding or dividing it when a section is made through the surgical neck; and Souchon observes that, in these cases, the care of the deltoid muscle and the nerve which animates it is an important point.

The convex incision has been quite generally discarded, because of the inevitable damage to the deltoid.

Diffenbach made a deep section through the pectoralis major, the latissimus dorsi, the two teres muscles and capsule.

In 1882 Poillon published a case in which he adopted this incision with good effect.

Reclus somewhat modified the procedure. He sent the bistoury in at about a centimeter below the summit of the acromian, the point directed horizontally over the head of the humerus. It was then pressed firmly inward between the anterior surface of the head and the under surface of the deltoid, dividing, in its course inward, all the fibrous structures and the capsule. This is essentially a revival of the "subcutaneous section" of Wisenhold.

In a subglenoid dislocation, hoping to the more easily reach and free the head, Volkmann made a vertical incision which failed to aid in reduction, and so wounded the axillary vein that it had to be ligated. By a similar incision, Kuster so lacerated the circumflex artery that it had to be ligated. He had suspected button-holing of the capsule, but when he cut down he found it entire though much thickened.

The coraco-humeral is now the incision generally preferred, as it entails less mutilation, is the safest, permits of the freest exploration, and ready exarticulation, and excision when this is desirable. The latest device for freely opening up the shoulder-joint is published by the celebrated Chicago surgeon, Prof. Nicholas Senn. It constitutes a radical departure from all former methods, although, of all the prodigious innovations contributed to surgical art and science by its originator, it is the most vulnerable; for, it would seem to be not only open to adverse criticism, but to positive condemnation. It is based on sound mechanical premises, but its range of destruction is great. Dr. Senn describes his open method as follows: "First an incision is commenced over the coracoid process and carried downward and outward in a gentle curve as far as the middle of the deltoid muscle, when it is continued in a similar curve upward and backward as far as the posterior border of the axillary space on the same level where it commenced; i. e., a point opposite the coracoid process. The semi-lunar flap is next reflected up as far as the base of the acromian process. Now the acromian process is detached with a saw, and turned down with the deltoid muscle attached. The capsule of the joint is now opened and freely explored. If the operation is for an irreducible luxation, the head of the bone can be detached, the cause of resistance sought for and removed, when reduction can be accomplished by direct or indirect means." He concludes by affirming that "when this trans-scapula section is done for irreducible dislocation, it involves no important tendons, muscles, vessels or nerves, and for this reason, good functional results may be confidently expected."

It is evident, though not so stated, that this means of opening the joint is intended for recent cases only, as in the old or recurrent habitual luxations, for obvious reasons, it would be of no possible value. But under any circumstances this section of a trans-scapular osseo-muscular flap must be serious in its consequences to the ulterior use of the limb. It is well known that the deltoid alone is capable of holding the humerus up and maintaining strength and action in the shoulder, when practically all the other muscular attachments are cut away.

An example of this, Professor Dennis recently demonstrated before the N. Y. County Medical Association, in a young man, from whom he had removed the head, both tuberosities and more than an inch of the humeral shaft; and yet, after recovery, nearly the full strength and movement in the joint were maintained by the undivided deltoid.

In the cadaver, if we make a clean cut across the three segments of the deltoid, and allow the arm to hang over the table, the head falls downward and outward, and we have a subluxation. In the Senn operation, the wide breach in this muscle must close in, and the ends unite by scar tissue, a substance which we know is always sure to stretch when put on a strain; when the [illegible]d of the bone must inevitably topple downwa [illegible] pressing on the tubular structures, a [illegible] sibly undergoing complete displacem

Shafts of bones divided by saw cuts, we know, do not always unite well. If the cleft here through the root of the acromian process should fail to fuse well by osseous bond, the effects on the shoulder must be disastrous. Possibly the theoretic objections to the trans-scapular incision may not be realized in practice; though they must remain until controverted by clinical demonstration, which is yet impossible, as recent surgical literature records no cases so treated.

PERSISTENT DISLOCATION, REDUCIBLE BUT NOT RETAINABLE.

Besides those irreducible cases which are comparatively numerous, we have others, though very unusual, in which, either from damage to the muscles or the nerve cords, although reduction is easy the arm sinks downward and hangs limp by the side of the body, with little power in it.

Some years ago Prof. F. S. Dennis presented such a case before the N. Y. Academy of Medicine, in which amputation was seriously contemplated. Several such abound in surgical literature, as serious complications following luxation. Ricard has recorded two which were treated, it appears, with some advantage, by arthrotomy and reefing the capsule, i. e., by replacing the humeral head and tucking up the folds of the elongated capsule. However, it seems inconceivable how such a procedure can have any permanent effects, because the elongation of the capsule is the consequence and not the cause.

One such case came under my own care in a boy 7 years old. The dislocation was ten months old, and was complete. There was marked atrophy of the shoulder muscles, but sensation was intact, and there was fairly free motion in the forearm and hand. It was my impression that the capsule had been ruptured or that the head had slipped through it. But on dissection it was found entire, though very much thinned. The long head of the biceps was in position, and nothing was found on arthrotomy to account for the condition. The slack of the capsule was cut away and then closed. With the arm reduced and firmly fixed, a gypsum dressing was applied. Union was primary. For a time it was thought that reposition was permanent, but at the end of three months the dislocation had again entirely recurred.

In this class, wherein diverse etiologic factors come into play, different modes of therapeutic procedure must be utilized. Authors are not in accord on causation, therefore we note that Cramer, Kuster, Volkman, and Voght, regarding enlargement of the humeral head as a mechanical impediment to retention, excise it. Burrell, Ricard, and others noted enlargement, thickening, and elongation of the capsule. Roser believed that non-return was sometimes caused by an enlargement of the subacromian and subscapular bursæ.

In my own experiments, full distension of the subacromian bursæ by injected liquid offered a decided impediment to replacement.

Malgaigne supposed a rent in the capsule was an obstacle.

Broca and Hartman thought that an absence of consolidation in fracture through the glenoid fossa was responsible for non-retention in certain cases.

The recent achievements of Ollier would seem to warrant the hope that in many of these important cases in healthy subjects, we may accomplish much by boldly resecting through the surgical neck and endeavoring to secure fixation and synarthrosis by union of the divided humerus with the scapula. If not, then some description of an elastic brace should be applied over the shoulder and arm, to keep the articular head securely in the glenoid cavity, and there retain it, with the hope that in time sufficient retraction may take place in the overlying muscles to permanently prevent later displacement.

REFERENCES.

1. Medical News, Feb. 19, 1898.
2. Trans. Am. Surg. Assn. p. 69, 1897.
3. Diagnostic Utility of the X-ray, xxxiii, p. 1498.
4. Annals of Surg., November, 1885.
5. Indian Med. Record. 1890, p. 297.

BIBLIOGRAPHY.

Dentu et Delbet: Traite de Chirurgie, vol. iii, p. 312.
Roberts: Modern Surgery, p. 229.
Enclyc. Internat. de Chir., vol. iv, p. 196.
Dentu et Delbet. Traite de Chirurgie, vol. iii.
N. Y. Med. Jour., 1889, 1890.
Lancet, vol. ii, 1890.
New Orleans Med. Jour., 1890.
Gaz. des Hôpitaux, 1890.
L'Echo Médical du Nord.
Senn: Nashville Med. Jour., Jan. 1898.
Cooper on Dislocations, p. 217.
St. Bartholomew's Hosp. Reports, 1888.
Pott's Surgical Works, vol. i.
Lancet, vol. ii. 1890. p. 1.
Desault: Ouvres Chir., vol. i, p. 312.
British Med. Jour., 1877.
Bull de la Soc. de Chir., Feb. 22, 1882, p. 134.
Mollier: Régéneration des Os.
Arch. f. Klin. Chir., B. d. vi, p. 201.
Deutsche Zeitsch. f. Chir., Bd. xxx, p. 422.
Velpeau: Lecons Clinique Chir.
Bryant, T.: Dis. and Inf. of Joints, 1859, p. 227.
Medical Chronicle, March, 1899.
Int. Med. Mag., April, 1899.
Bolby: Injuries of the Nerves.
Revue de Chirurgie, Dec., 1898.
Répertoire de Breschet, Paris, 1827, tome iii.
International Med. Jour., April, 1899.
Hey's Surgery, p. 293.
Cooper's Surg. Dictionary, p. 446.
Boyer: Malad. Chirurg., tome iv, p. 25.
Nélaton: Jour. des Prat., May, 1898.
L'Indépendance Médicale, June, 1897.
La Presse Méd., March 5, 1898.
London Med. Recorder, 1889.
Bull de la Soc. de Chir. de Lyons, 1899.
Helferich: Fractures and Dislocations.
British Medical Review, 1895.
Malgaigne: Ouvre Chir., Forms and Varieties of Irreducible Dislocations.
Cooper's Surg. Dict., p. 974.
Pichat: Ouvres de Chir., vol vi, p. 199.
Gaz. Heb., March 12, 1897.
Rev. de Chir., April, 1894.
Med. obos. Inq., vol. ii, p. 1671.
Boston Med. and Surg. Jour., 1897.
Internat. Clinics, 1897.
Trans. Am. Surg. Assn.
Pitres: Mémoires Chir., 184.
Richet: Elémentes de Path. Chir., t. v., p. 170.
Thorforne, Wm.: Medical Chronicle, 1891, 14, p. 4.
Peoria Medical Monthly, 1888, p. 112.
Comp. Disloc. Shoulder, p. 35.
Southwestern Med. Gaz.
Bull. et Mémoires de la Soc. de Chir., 1895.
Med. and Surg. Boston City Hospitals, 1896.
Trans. Med. Soc. of N. Y.
Téana: Congres Francais de Chirg., 1886.
Des Fract. et des Luxationes (Malgregue Traite).
Stimpson, L. A.: Treatise on Dislocations, p. 28.
Centralblatt f. Chir.
Med. Times and Gaz., 1875.
Follier: Pathologie Externe, p 763.
Hamunisell: Treatise on Surg., p. 217.
Jahrbericht, 1883, Bd. xi, p. 340.
Treves: Applied Anatomy.
Mém de Chir. Militaire, Baron Larry, t. ii, p. 405.
Dentu et Delbet, Traite de Chir., vol. iii, p. 312.
Roberts: Modern Surgery, p. 2397.
Encyclopedia Internationale de Chir., vol. iv, p. 196.
N. Y. Polyclinic, 1895.
Annals of Surgery, 1895, 1896.
Assn. Francais de Chir., 1893.
Gaz. des Hôpitaux, 1894.
Bolby: Injury and Diseases of Nerves.
Richer: Paralysis et Contractions Hystéricales.
Pitres: Génèse et Nature de l'Hystérie.
Annals of Surgery, 1865.
Indian Med. Gaz., 1886.
Bull. et Mémoires de la Soc. de Chir, de Paris, 1888.
Concrès Francaise de Chir., 1888.
Revue de Chir., Sept., 1885.
Bull. et Mémoires de la Soc. de Chir., de Paris, 1893.
Sov. Med. Soc. London, vols. xiv, xv.
La France Méd., 1892.
Edin. Hosp. Reports, vol. i.
British Med. Jour., 1893.
Clinical Jour., 1894.
Trans. Path. Soc. London, 1892.
Cincinnati Lancet-Clinic, 1893, 1894 and 1895.

Therapeutics.

Dyspepsia.

FOR ACID DYSPEPSIA—FERMENTATIVE.

℞. Sodii chloridi............................℥ss
Sodii bicarbonatis..........................℥i
Sodii sulphatis............................℥iiss

M. *et ft. chart.* Sig. *Small teaspoonful in one pint of hot* water an hour before meals. Regulate amount of salts according to bowels—*one or two movements daily being desired.*

—*H. B. Whitney.*

CHRONIC DYSPEPSIA.

Comby advises that in chronic dyspepsia due to atony and dilatation of the stomach in children, 5 to 10 years old, the following treatment should be continued for ten days, then omitted *for the same period and repeated.* It is contraindicated in severe pain of the stomach with accompanying great nervous irritability:

℞. Pulv. *nucis vomicæ* ....*gr. 1/6* |01
Sodii bicarbonatis |
Magnesiæ calcinatæ, āā..............gr. iii |2
Pepsini ....gr. iss |1

M. Sig. For one powder to be taken before meals, morning and evening.

HYPERCHLORHYDRIA.

℞. Betanaphthol ....gr. v
Ess. zingib..............................ʒi
Olei cajuput............................gtt. i

M. Sig. *To be taken in a small quantity* of water, followed by larger draught.

Full doses of alkalies to be given at height of digestion.

—*D. D. Stewart.*

A. H. Hoy writes as follows regarding the treatment of dyspepsia, quoted from the Practitioner's Manual:

There are two essential points in the treatment of dyspepsia: 1. In the treatment of all forms of indigestion, be it gastric or intestinal, a sterile diet must be insisted upon. This means absolutely sterile, or at least the attempt to make it so, and admits of no distinction between harmless and harmful micro-organisms. Bread made with yeast, as ordinarily eaten, must be considered a germ-bearer, and butter also, even the choicest *brands. It is the assumption that certain germs are harmless* in the intestinal tract, which is the cause of failure to relieve many dyspeptics.

The physician should look at this matter from the standpoint of the surgeon and make no distinction as to the kinds of germs. Micro-organisms are of no aid to digestion. On the contrary, they may derange and inhibit the process just as *much* as they do the healing of a wound.

2. Limit or forbid entirely the ingestion of the organic acids in food or drink. We must remember that digestion is essentially an alkaline process. Even the acidity of the gastric contents is only temporary and must not go beyond narrow limits. It is proven that gastric digestion is not a life-sustaining necessity. It is necessary to a healthy and normal condition of the body, however, that the contents of the small intestine be maintained in alkaline condition, so that peptone can be changed into serum albumin. Nature will neutralize a great amount of free organic acid in the intestine, but the alkali necessary is taken from the blood and hence that fluid loses its normal alkalinity, and a departure from a healthy and normal state at once ensues.

The elimination of micro-organisms and organic acids from the alimentary tract in dyspepsia oftentimes stands in the relation of cause and effect, for the micro-organisms themselves are the great producers of many of the organic acids.

Diet, then, being the great factor in the treatment of all kinds of dyspepsia, *some* of the distressing conditions may be relieved by the following medication:

FOR NERVO-MOTOR DYSPEPSIA.

℞. Sodii bromidi............................℥ii
Codeinæ sulphatis.....................gr. v-x
Carmine, C. P.........................gr. xxx
Aquæ destil..............................℥iv

M. Ft. sol. Sig. From half to a teaspoonful in hot or cold water, either before or after eating, as deemed best in each case.

The carmine is not added for color. The writer believes that the carminic acid therein has germicidal powers. The following should be applied to the skin over the region of the stomach by brisk rubbing with a piece of new red flannel:

℞. Ungt. hydrargyri..........................℥i
Olei sinapis..........................gtt. xv

M. Sig. Use a piece as large as a bean as directed, night and morning.

For an intestinal germicide the following seems to meet indications most successfully:

℞. Salophen ....ʒi

M. *Ft. cap. No. xii. Sig. One* capsule before eating. Take no acids while using.

From the same source are quoted the following prescriptions which have been used in the treatment of dyspepsia:

IN FLATULENT INDIGESTIONS.

℞. Zinci sulphocarbolatis...................gr. xii
Pepsini pur.
Pancreatis ext., āā.......................ʒss
Bismuthi subgallat ....ʒii

M. Ft. chart. No. xii. Sig. One before each meal. In indigestion, with much coating of the tongue, in nasopharyngeal catarrh, and especially in morning vomiting:

℞. Pulv. ipecac ....gr. viii
Pepsini pur...............................ʒss
Pulv. rhei.................................ʒi
Sodii bicarb..............................ʒiss
Tinct. nucis vomicæ.......................ʒiv
Aquæ menthæ pip, ad.....................℥viii

M. Sig. Shake well, and take a teaspoonful before meals in half a glass of hot water. —*L. F. Donohoe.*

In the reflex nervous disturbances of stomach derangement, especially palpitation of the heart, so-called nervous dyspepsia:

℞. Zinci phosphidi
Sodii et auri chloridi, āā................gr. iss
Ext. nucis vomicæ.....................gr. viiss

M. Ft. pil. No. xxx. Sig. *A teaspoonful* every *two* or three hours. —*Upshur.*

ACUTE INDIGESTION NOT RELIEVED BY CATHARTICS:

℞. Resorcini ....gr. xl
Sodii chloratis............................ʒi
Mist. rhei et sodæ........................℥ii

M. Sig. A teaspoonful every two or three hours.

—*Andrew H. Smith.*

℞. Acidi hydrochorici dil..................ʒiv
Tinct nucis vomicæ.........................ʒii
Liq. potassii arsenitis...............gtt. lxxii
Ess. pepsini...............................℥ii
Aquæ, ad...................................℥vi

M. Sig. Two teaspoonfuls in water after meals.

Or

℞. Fellis bovis purificati...................gr. i
Ext. pancreatini...........................gr. i
Ext. colocynthidis comp..................gr. 1/4
Quininæ hydrochloratis ....gr. ss
Ext. nucis vomicæ ....gr. 1/8
Ext. taraxaci..............................gr. i

M. Sig. For one tablet. One or two before meals.

—*Wm. Porter.*

FLATULENT DYSPEPSIA.

℞. Magnesia
Phosphate of lime
Powdered charcoal
Sulphur, equal parts.

M. Sig. Teaspoonful as required, taken in a little water.

Or

℞. Olei creosoti ....m. xii
Spiritus tenuioris........................℥ss
Ammonii benzoatis.........................ʒii
Glycerini ....ʒvi
Infusi carophylli, q. s., ad...............℥vi

M. Sig. Teaspoonful in a glass of water.

—*B. W. Richardson.*

ANTISPASMODIC MIXTURE.

For the violent spasmodic attacks, with *great distention of* the stomach and bowels, *to which some sufferers from flatulence are liable, the following is nearly always* [illegible]

℞. Spirit cajuputi (P. D.).............
Spirit ammoniæ aromatici.........
Spirit chloroformi ....

M. Sig. One teaspoonful in a glass of water every half-hour or every quarter-hour until relief is obtained.

FLATULENCE INDICATING GASTRITIS.

When flatulence is associated with pain after food and coated tongue, indicating gastritis. the following prescription should be given:

℞. Potassii bicarb, vel sodii bicarb	ʒii
Spir. ammoniæ aromatici	ʒiss
Liq. strychninæ (P. B.)	ʒss
Spts. cajuputi (P. B.)	ʒiss-ʒii
Spts. chloroformi	ʒi
Infusi calumbæ vel gentianæ co	℥vi

M. Ft. mist. Sig. A sixth part three times a day between meals.

—*Stephen Mackenzie.*

Treatment of Typhoid Fever by Tepid Bathing.

The good effect of hydriatic measures in the treatment of typhoid fever is due not alone to the reduction in temperature brought about, but also to an impression made on the nervous system through its cutaneous terminals. In accordance with the recommendation of Brand, the cold bath has been the measure most commonly employed for this purpose. Immersion of the patient in water at a low temperature is, however, at times attended with serious difficulties. Thus the condition of the patient may seem to forbid it; or the patient may himself resent it; or the friends may interpose sentimental objections. It would, therefore, be a gain if the same results could be obtained by other, and perhaps more agreeable or more acceptable, measures, and it would be an advantage to have a substitute for the cold bath should this be contraindicated. From his experience in the treatment of typhoid fever, at the Brisbane Hospital, Hirschfeld (*Australasian Medical Gazette*, Jan. 20, 1900, p. 22) believes that the tepid bath is such a measure. It is his rule to bathe the patient for twenty minutes in water at a temperature of 85 F., when the temperature taken in the rectum every three hours is 102.2 F. by day or 104 F. by night. Pulse and temperature are noted half an hour after a bath, and, in accordance with the individual reaction of the patient, the baths are continued at the same temperature or are raised to 90 or reduced to 80 degrees. Exceptionally a lower temperature than the latter is required. A purgative is generally given to patients seen in the first week—either 5 grains of calomel, with 40 grains of compound jalap-powder, or from ½ to 1 ounce of castor-oil, with 15 minims of spirits of turpentin. In addition a mixture of quinin and chlorin is administered, being replaced in the third week by bismuth salicylate. When antipyretics are indicated, 20 grains of quinin are given at night, or from 10 to 15 grains of lactophenin thrice daily. Alcohol is relied on to sustain the action of the heart if necessary. The diet is generally wholly liquid while the fever lasts, and includes three pints of milk and two pints of beef-tea. When the tongue clears and the appetite returns, thin corn-flour or gruel is allowed during defervescence.

Hirschfeld contends that the patient does not part with his heat so readily in the cold bath as in the tepid one, because the initial contraction of the blood-vessels of the skin in the cold bath allows less blood to pass through the skin, and consequently less heat is dissipated, but this objection is overcome by vigorous friction of the surface. Further, the shivering of the cold bath is believed to cause rapid elevation of the temperature of the body by lessening the circulation through the skin. and inducing involuntary muscular contractions. Finally, it is thought that while the dissipation of heat is greater in the cold bath. the production of heat is stimulated in the period of reaction.

The statistics that Hirschfeld has to present seem insufficient for a final conclusion. They cover a period of three years, in the first of which the system in vogue. namely, bathing at the natural temperature of the water, was continued; during the part of the next year tepid baths were systematically substituted for cold bathing; and in the third year the tepid baths were employed exclusively. During the first year 266 cases were treated, with a mortality of 7.9; during the second year 147 cases, with mortality of 8.2; and during the third 120 cases, with a mortality of 4.2. The especially favorable results of the last year are not attributed exclusively to the tepid bath, as it is thought the patients may have been seen at an earlier stage of the affection, while in the previous year a considerable number of moribund ones were treated, death resulting within thirty-six or forty-eight hours after reception into the hospital.

For Arrest of Suppuration.

Levurin is the name given to a dried extract of beer-yeast, whose administration has been recommended for the arrest of suppuration and the reduction of temperature. The dose is a teaspoonful, given twice daily, before food, in beer or aerated water or in cachets. At a recent meeting of the Edinburgh Obstetrical Society, Prof. A. R. Simpson (*British Med. Jour.*, March 10) cited cases of tonsillitis, appendicitis, tuberculous ulceration, puerperal septicemia, and pelvic cellulitis in which he had employed the preparation with satisfactory results. The mode of action is not explained.

Treatment of Dyspepsia With Natural Gastric Juice.

The Paris correspondent of *The Lancet*, February 17, p. 502, describes a new plan of treating dyspepsia, proposed by a French clinician and consisting in the administration of from 100 to 150 grams of gastric juice obtained from dogs through gastric fistulæ, and given in divided doses of 25 grams mixed with 75 grams of cold milk, beer or bouillon. The gastric juice is gradually withdrawn until the patient is able to dispense with it entirely. The results obtained have been good and can not be attributed to suggestion. The gastric juice is not easily obtained in large quantities and its production is expensive.

Medicolegal.

Model of Eye Not Scientific Apparatus.—In the opinion of the United States Treasury Department, a model of a human eye imported for an institution established for philosophic, educational, or scientific purposes is not a philosophic or scientific instrument, preparation, or apparatus, within the meaning of, and entitled to free entry under, paragraph 638 of the tariff act of July 24, 1897. The reason given for this ruling is that the article is not used for the purpose of making observations and discoveries in Nature, or for experiments in developing and exhibiting natural forces and conditions under which they can be called into activity, but is intended rather as an object-lesson to classes in anatomy or optics.

Destroys Bar to Action in Injury Case.—While it assents to the doctrine that an action in tort, once barred, can not be revived by a new promise, the Supreme Court of Michigan nevertheless holds, in Renackowsky vs. Board of Water Commissioners of the City of Detroit, that a plaintiff in a personal injury case may meet the defense that his right of action has been barred by the statute of limitations by showing that, before the time fixed by the statute for the bar, the defendant by his course of conduct, led him to believe that a suit to enforce his rights would be unnecessary, and thereby lulled him into a feeling of security, and induced him to refrain from bringing his action within the period fixed by statute.

Insurance Claimant Can Not Waive Privileges.—On the day before his death, a holder of a certificate of insurance payable to his son had the same changed so as to make his own brother the beneficiary. The son took the matter into court. He alleged, among other things, that when the change was made his father was very ill, and under the influence of drugs, and incapable of comprehending what he was doing. He was also permitted to introduce as a witness the physician who attended his father, and to examine him as to communications made by his father in relation to his physical and mental condition. This, the Supreme Court of Iowa holds, Shuman vs. Supreme Lodge Knights of Honor, was error. It holds that section 4608 of the Iowa Code makes such communications privileged, and the death of the communicant is not in itself sufficient in all instances to remove the bar. The patient, the court goes on to say, may waive this privilege; and in cases of contests of wills, where the parties are claiming rights to the estate through devise, inheritance, or in a representative capacity, those representing the estate may also waive the privilege. But this case, it holds, did not come within the rule applicable to cases of that character. While both of the claimants of the fund here were blood relations of the decedent, they were neither of them asserting rights in that capacity. Each rested his right on other grounds. Each claimed to be, in effect, an appointee of the decedent. And there is no warrant, the court declares, for making such a case as this an exception to the rule of the statute.

Disease Contracted Before Marriage.—After they had been married and lived together for about ten months, a wife ascertained for the first time that her husband was suffering from a loathsome venereal disease, contracted before his marriage. From the time of this discovery they occupied separate rooms, and the wife, for nearly two years and a half more, nursed and cared for her husband, whose disease became worse. Then, his condition having become so loathsome that she could no longer care for him or nurse him, without danger to her health, she had a talk with him, and told him that something would have to be done, and he said that he would go to his brother's, after which he took his satchel and left, simply saying, "I am going." She sued for divorce, on the ground of constructive desertion. But the Court of Chancery of New Jersey holds that her petition should be dismissed, though without prejudice to her filing a bill for annulment of marriage. It says, Crane vs. Crane, that had the disease been contracted after the marriage, it would seem that the separation under the above circumstances might have been constituted a case of constructive desertion by the husband, as based on a cruelty which was a cause for divorce. But this cruelty relied on as the basis of constructive desertion resulted, not from any act of the husband since his marriage, but was the result of previous misconduct. Wherefore, the court is of the opinion that the only relief of the wife, if she has any, against the man whom she took for better or worse, must be an annulment of the contract of marriage on account of the cruel and outrageous fraud which seems to have been perpetrated. Her conduct in refusing to live longer with her husband, the court goes on to say, seems to have been entirely justifiable, but to call his departure from her house, under the circumstances, a separation of the wife, would, it thinks, create a new cause of divorce, by adopting a construction of the statute relating to desertions which goes beyond the authority of the words of the statute or of any decision.

Can Not Testify to Own Claim For Services.—The constitution of the State of Arkansas provides that "in actions by or against executors, administrators or guardians, in which judgment may be rendered for or against them, neither party shall be allowed to tesify against the other as to any transactions with or statements of the testator, intestate or ward, unless called to testify thereto by the opposite party." This was invoked in the case of Cash vs. Kirkham. Here a physician had presented two accounts against the estate of a deceased person. They were principally for services rendered the deceased and his family. The administrator disallowed them. Then there was a suit over them. In that, the plaintiff was allowed to testify, over the defendant administrator's objection, that he was the attending physician during the last illness of the deceased; that he made forty visits, at $2 a visit; that the cost of an operation on the wife of the deceased was $25; and that the total amount due on this account was $120. The defendant objected to this testimony of the plaintiff, for incompetency—the same being as to transactions with the defendant's intestate. The overruling of this objection and allowing the evidence to go in, the Supreme Court of Arkansas now holds was reversible error. It says that the testimony of the plaintiff tended to prove an implied contract with the deceased, the legal effect of which, as a whole, if true, was an implied promise of the deceased to pay the plaintiff the sum of $105 for services rendered. This was a transaction with the deceased—as much as it would have been had the deceased expressly promised to pay $105. The only difference between the two transactions was that in one case the promise was implied, and in the other it was expressed. Hence, the court holds, the testimony should have been excluded on the ground that the plaintiff was incompetent to testify as to such transaction.

Licensing Barbers.—Mention has already been made, in the department of "Medical News" (Feb. 10, p. 374) of the fact that the Supreme Court of Minnesota has sustained the law requiring all barbers in that state to have licenses. The title of the case in which it has done this, after, as it declares, the statute was assailed from all directions, is State vs. Zeno. Here the court says that laws enacted for the purpose of regulating or throwing restrictions around a trade, calling or occupation, in the interests of the public health and morals, are everywhere upheld and sustained, as being within the police power of the state. Then, it says that it is a fact; of which it must take judicial notice, that the people of to-day come into contact with, and engage the services of, those following the occupation of barber, as much as, if not more than, any other occupation or profession. Besides, it says that it must take notice of the fact, too, that the interests of the public health require and demand that persons following that occupation be reasonably familiar with, and favorably inclined toward, ordinary rules of cleanliness; that diseases of the face and skin are spread from barber shops, caused, no doubt, by uncleanliness or the incompetency of barbers. So it holds that the occupation of a barber is a calling or trade involving the public health and public good, and that the health of the citizen and protection from diseases spread from barber shops conducted by unclean and incompetent barbers, fully justify the law.

Malpractice on Arm.—In Jameson vs. Weld, wherein the plaintiff obtained a judgment for $500 and the Supreme Judicial Court of Maine has overruled a motion for a new trial, malpractice in the treatment of an injury to the elbow of the right arm was charged. That there was a dislocation of both the ulna and the radius was not questioned. The defendant diagnosed the case as one of fracture and dislocation. The plaintiff insisted that there was no fracture, and that the diagnosis and treatment were accordingly wrong. But, if she was in error in this respect, the court says that it still remained necessary to inquire whether, there being fractures, the dislocation was treated with that reasonable degree of skill and care which the law imposes on surgeons. Further on it states that the parties differed most in their testimony with respect to the statements made by the doctor, from time to time, concerning the condition of the elbow and his knowledge of it. And the court says that if her statement was true that, being inquired of by her in the ninth week of the treatment, he assured her that the dislocation had been reduced successfully the first time he treated her, while this would not, of itself, prove want of skill or care, yet the jury would be entitled to give it considerable weight, as showing a purpose to conceal the true condition, for some reason or other. Then, it holds that it is not enough to set aside a verdict that it may be wrong, or that the court might have come to a different conclusion, it not appearing, upon all the evidence, clearly wrong. It also calls attention, with apparent approval, to the fact that it was left to the jury to determine whether, the issue being raised, reasonable skill had been used in letting the arm get stiff, nearly straight, when it might possibly have been somewhat more useful if flexed. Continuing, it holds that in a case of malpractice to an arm, where it is claimed that the present condition of the arm is due to the want of care or skill on the part of the defendant, it is within the discretion of the presiding justice to permit the arm to be exhibited to the jury, although the defendant may claim that the present condition of the arm is due to some other cause. It likewise holds that it is within the discretion of a presiding justice to admit in evidence an X-ray photograph. Whether it is sufficiently verified, whether it appears to be fairly representative of the object portrayed, and whether it may be useful to the jury, it declares, are preliminary questions addressed to him, and his determination thereon is not open to exceptions. The use of the word "pungent," by the presiding justice, in alluding, during his charge to the jury, to iodin or ointment used on the plaintiff's arm, though [illegible] be [illegible]rate, is n deemed to be prejudicial.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical Record (N. Y.), March 31.

1.—*Muscular Rheumatism. I. Adler.
2.—*Observations on Treatment of Cancer. A. R. Robinson and S. Edin.
3.—*Cardinal Pathogonomonic Sign of Fractures of Lower End of Radius (Colles'). Martin W. Ware.
4.— Locomotor Ataxia. B. C. Loveland.

Medical News (N. Y.), March 31.

5.—*Myocarditis in Infancy and Childhood. Henry Koplik.
6.—*Uterine Fibroids Complicated by Pregnancy. Willis E. Ford.
7.—*Toxins from a Chemical and Pathogenic Standpoint. A. E. Austin and I. H. Coriat.
8.—*Alcohol as a General Stimulant and Heart Tonic; Its Use to the Animal Economy in Health and Disease. T. J. Hillis.
9.—*Treatment of Whooping-Cough. Henry Coggeshall.

New York Medical Journal, March 31.

10.—*Gunshot Wounds: Report of Gunshot Cases in Spanish-American War, and Deductions Therefrom. W. C. Borden.
11.—*Report of Case of Tumor of Cerebellum with Drainage of Fluid Through the Nose. G. W. McCaskey.
12.— Arthritis Deformans and the Benefits of Electric Treatment. Margaret A. Cleaves.
13.—*Spontaneous Discharge of Cerebrospinal Fluid from Nose. W. Freudenthal.
14.— Diabetes Mellitus, with Special Reference to its Treatment with Double Bromid of Gold and Arsenic. George D. Barney.
15.—*Is There a Rheumatic Periostitis? Arthur Stern.
16.—*Leucocytosis. J. H. Burch.

Boston Medical and Surgical Journal, March 29.

17.—*Typhoid Spine. R. W. Lovett and Chas. F. Withington.
18.—*Idiopathic Pneumohematothorax with Recovery After Aspiration. Elisha S. Boland.
19.— Bradycardia, with Intermittent Albuminuria. Andrew H. Whitridge.

Philadelphia Medical Journal, March 31.

20.—*Inaccuracies of Home Modification of Cow's Milk. Charles E. Woodruff.
21.—*Case of Polyencephalomyelitis in Adult. Dewitt H. Sherman and William G. Spiller.
22.—*Prevalence and Diagnosis of Leukemia. George Dock.
23.—*Research into Cause of Collapse or Death from Blows on Lower Chest and Epigastrium. George W. Crile.
24.— Case of Membranous Nondiphtheritic Croup with Recurring Laryngeal Stenosis. Herman B. Sheffield.
25.—*Unexplainable Congestion and Enlargement of Left Arm Cured by Exploratory Operation; Splenectomy. Orville Horwitz.

Medical Review (St. Louis, Mo.), March 31.

26.—*Peculiar Form of Fistula of Pharynx. W. Freudenthal.
27.— Some Difficulties in Early Diagnosis of Pneumonia; Clinical Report of Two Cases. L. H. Behrens.

Cincinnati Lancet-Clinic, March 31.

28.—*Some Practical Points in Diagnosis and Treatment of Commoner Forms of Fractures. Louis A. Stimson.
29.— Interesting Case of Pin Transfixing the Eye. Christian R. Holmes.

Railway Surgeon (Chicago), March 20.

30.— Case of Compound, Complicated Fracture of the Femur. J. E. Luce.
31.— Fractures, Sprains and Contusions. James G. Hunt.
32.— Fracture of Femur. W. C. Gates.

Medical Fortnightly (St. Louis, Mo.), March 26.

33.— Faith Cure and Law. E. F. Baker.
34.— Physiology. A. L. Benedict.

American Practitioner and News (Louisville, Ky.), January 15.

35.— Defective Vision and its Disqualifying Consequences. William B. Meany.
36.— Eye-Strain as a Cause of Disease. A. G. Blincoe.
37.— Three Cases of Puerperal Eclampsia out of Four Women Delivered within Ten Days: One Death. Perry W. Fox.
38.— Report of Two Cases of Diphtheria. Joseph Hopson.

Virginia Medical Semi-Monthly (Richmond), March 9.

39.—*Case of Paresthesia Sexualis with Anthropophagous Practices, showing Lesion Pointing to the Angular Gyrus as the Probable Cortical Center of the Sexual Instinct. Richard T. Styll.
40.—*Home and Asylum Treatment of Inebriety. T. D. Crothers.
41.— Indications for and Method of Operating on Middle Turbinated Bone. John P. Davidson.
42.— Chronic Nonsuppurative Catarrhal Otitis. Johnson Eliot.
43.— Fermentative Disorders of the Alimentary Canal of Infants. L. G. Frazier
44.— Removal of Dislocated Columnar Cartilage. F. Y. Chamberlin.
45.— Report of Case of Tubercular Arthritis of Knee. J. W. Henson.
46.— Latent Gonorrhea in Male as a Factor in Diseases of Female Organs of Generation. Lewis Wheat.

Medical Review of Reviews (N. Y.), March 25.

47.— Education and Profession of Medicine. Andrew V. V. Raymond.

American Journal of Obstetrics (N. Y.), March.

48.—*Extrauterine Pregnancy. Early Tubal Rupture; Development of Fetus to Term Free in the Peritoneal Cavity: Celiotomy; Delivery of Living Child; Recovery of Mother. Harry M. Lufkin.
49.—*Round Ligament Ventro-suspension of Uterus: a New Method. D. Tod Gilliam.
50.—*Preliminary Note on an Operation for Suspension of Uterus. Robert T. Morris.
51.—*Pernicious Nausea and Vomiting of Pregnancy; with Report of Case. Edward P. Davis.
52.— Report of Case of Nephrectomy for Pyonephrosis Due to Impaction of Stone in Ureter: with Remarks on Importance of Early Diagnosis and Treatment of Renal Calculi. Charles P. Noble.
53.—*Some Notes on Care of Intestine During and After Abdominal Section. L. Grant Baldwin.
54.—*Clinical Significance of Developmental Duplications of the Uterus and Vagina. Brooks H. Wells.

Therapeutic Gazette (Detroit, Mich.), March 15.

55.— Treatment of Epididymitis. H. M. Christian.
56.— Use of Citric Acid for Relief of Ozena in Atrophic Rhinitis. Lewis S. Somers.
57.— Etiology and Treatment of Epistaxis. P. S. Donnellan.
58.— Use of Croton Oil in Practice. A. K. Bond.
59.— Treatment of Phthisis Pulmonalis with Nascent Chlorid of Ammonia. James C. Ballard.

Post-Graduate (N. Y.), March.

60.—*Results of Panas Operation for Strabismus. D. B. St. John Roosa.
61.— Some Neurologic Notes. Philip Meirowitz.
62.— Gastroptosis. Achilles Rose.
63.— Electric Treatment of Some Forces of Paralysis. Wm. B. Snow.
64.— Non-Operative Treatment of Strabismus; Its Possibilities. A. Edward Davis.
65.— Differentiation and Treatment of Ocular Affections Commonly Met with in Family Practice. Frank Van Fleet.

Peoria Medical Journal (Peoria, Ill.), March.

66.— Four Cases of Appendicitis, with Some of the Lessons That They Teach. J. F. Percy.

Canadian Practitioner and Review (Toronto), March.

67.—*Placental Inspection: Its Uncertainties and Its Dangers. J. F. W. Ross.
68.— Puerperal Septicemia. Adam H. Wright.
69.— Case of Tubercular Peritonitis, Complicated by Insanity. Thomas Ovens.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), March.

70.—*Imperfect or Deficient Urinary Excretion as Observed in Connection with Certain Diseases of the Skin. L. Duncan Bulkley.
71.—*Catheterization of Healthy Ureter Through an Infected Region. Howard Lilienthal.
72.— Report of Case of Cutaneous Angiosarcoma. James MacFarlane Winfield.
73.—*Therapy of Impotence in Male. I. Zabludowski.

Canada Lancet (Toronto), March.

74.—*Peptones in Typhoid Fever. Frederick Fenton.
75.— Subcutaneous Abscesses in Connection with a Bacillus in Circulating Blood. Thomas Bradley.
76.— Operations for Soft Cataract. David Webster.
77.— That Running Ear. Perry G. Goldsmith.

Chicago Clinic, March.

78.— Revision of the United States Pharmacopeia from a Medical Point of View. J. A. Patton.
79.— Surgery of the Hand. W. A. Kuflewski.
80.— Disease of the Conus Medullaris. A. Heym.
81.— Some Practical Abdominal Anatomy for Practitioners. W. T. Eckley.
82.—*Inflating Rectal Specula with Detachable Tubes. J. Rawson Pennington.

Medical Times and Register (Philadelphia), March.

83.— Address on a Surgeon's View of Value of Drawing to His Profession. Albert H. Tuttle.

Cleveland Medical Gazette, March.

84.— Clinical and Pathologic Report of Two Cases of Genital Tuberculosis. Hunter Robb.
85.— Résumé of Different Methods of Treating Hydrocele. Nicola Cerri.
86.— Report of Case of Septicemia, with Metastatic Abscesses and Cicatricial Contraction Retarding Labor. Charles L. Webster.

Illinois Medical Journal (Springfield), March.

87.—*Mechanical Method of Treating Sciatica. C. C. Hunt.
88.—*Why and When Operate for Appendicitis? W. F. Grinstead.
89.—*Medicolegal Aspect of Bright's Disease. Columbus Barlow.
90.— Diagnosis and Clinical Course of Puerperal Eclampsia. Frank B. Earle.
91.— Unusual Case of Perforating Gastric Ulcer. C. W. Hall.
92.—*Two Affections of Knee-Joint: Gonorrheal Synovitis; Loose Body in Joint. Geo. N. Kreider.

Obstetrics (N. Y.), March.

93.— Advisibility of Inducing Premature Labor in Syphilitic, with Prolapse of Uterus and Bladder. Thomas S. Bullock.
94.— Puerperal Septicemia, and Some of the Methods of its Prevention. Wesley A. Rape.

Western Medical Review (Lincoln, Neb.), March 15.

95.— President's Address before Nebraska State Medical League. J. W. Ballard.
96.—*Congenital Hip-Joint Displacements. John Prentiss Lord.
97.—*Diagnosis of Abdominal Tumors. M. L. Harris.
98.—*Oöphorectomy for Grave Functional Nervous Diseases Occurring during Menstruation. D. C. Brockman.
99.— Abortion. (*Continued.*) A. D. Wilkinson.

St. Louis Clinique, March.

100.— Pollution of Drinking Water by Sewage. J. E. State.
101.— Some Newer Therapeutic Agents. C. W. Lillie.

102.— Treatment of Rickets. Robert C. Kenner.

Ophthalmic Record (Chicago), March.

103.—*Clinical and Histological Study of Melanotic Sarcoma of Choroid, with Recurrence of Growth in the Orbit Five Months After Enucleation of Eyeball and one Extra-Scleral Mass. G. E. de Schweinitz.
104.— Profuse Recto-Choroidal Hemorrhage after Iridectomy for Chronic Glaucoma. F. C. Hotz.
105.—*Snow-Blindness. S. Mitchell.
106.— *Fatigue from Effort to Maintain Binocular Single Vision.* George J. Bull.
107.— Brief Clinical Study of Conjunctival Ulceration. H. McI. Morton.
108.— Case of Fracture of Orbit, with Unusual Symptoms. Geo. E. Bellows.
109.— Nystagmus Osculatorious Verticalis. W. P. Malone.
110.—*Chloretone (Tri-Chlortertiary-Butyl Alcohol) in Ophthalmic Practice. H. McI. Morton.
111.— Muscular Asthenopia. E. H. Hazen.

Southern California Practitioner (Los Angeles), March.

112.— Description of Cystoscopes for Catheterizing of Ureters. Granville MacGowan.
113.— Vis Medicatrix Naturæ. R. J. Gregg.
114.— Encysted Hydrocele of Testis, Bilateral. Ralph Williams.
115.— Suggestions on Systematic Discounts in Collection of Surgeon's Fees. Ernest Hall.
116.— How to Give an Ice-Cold Sponge Bath. Mary L. Mulholland.

Carolina Medical Journal (Charlotte), March.

117.— The Southern Negro; His Recent Erotic Tendencies; Causes; Suggestions as to Prevention. S. C. Baker.
118.— Cases of Mastoid Inflammation. Charles W. Kollock.
119.— Gunshot Wounds of Knee-Joint. Manning Simons.
120.— Syphilitic Gangrene (?); Case Involving Scrotum and Perineum. William R. Lowman.
121.— Causes and Best Method of Treating Deafness in Children. Edward F. Parker.
122.— Few Operations by Country Doctor. W. P. Timmerman.

Interstate Medical Journal (St. Louis, Mo.), March.

123.—*Lethargy and France. Thomas M. Madden.
124.—*Etiology of Acute Tonsillitis. William J. Class.
125.— *Preliminary Report on Etiology of Scarlatina.* R. B. H. Gradwohl.
126.— Use of Forceps. Denslow Lewis.
127.— Sea-Sickness. J. B. Busdraghi.
128.— Four Cases of Diabetes Mellitus of Apparent Bacterial Origin, and Their Successful Treatment. J. P. Sheridan.

Medical and Surgical Monitor (Indianapolis, Ind.), March 15.

129.— Address Delivered at Commencement Exercises of St. Vincent's Training School for Nurses. L. H. Dunning.
130.— Persistent Eructations: Report of Case. Edward M. Amos.
131.— Suppurative Hepatitis: Report of Case and Autopsy. A. T. Stewart.
132.— Auto-Intoxication. D. L. Field.

Hot Springs Medical Journal, March.

133.— Intestinal Auto-Intoxication; Its Prevention and Treatment. W. F. Barclay.

Kansas City Medical Record, March.

134.—*Formic Aldehyde as a Preservative of Milk. J. Moechel.
135.— Glycosuria. O. H. Parker.

Texas Medical News (Austin), March.

136.—*Grant's Cheiloplastic Operation for Restoration of Lip; Report of a Case. Joe. S. Wooten.
137.— Interpretation of the Skiagraph. Albert Woldert.
138.— Obstetric Notes. I. L. VanZant.
139.— Right to Hasten Death. Albert Woldert.

AMERICAN.

1. **Muscular Rheumatism.**—Adler combats the definition of Lorenz that muscular rheumatism is a functional trouble dependent on no particular lesion and due to cold, and maintains that it is, according to all probability and analogy, an infection with a probable streptococcus, perhaps staphylococcus origin, of attenuated virulence. He recognizes that a certain degree of individual predisposition contributes, augmented by indolent and sedentary habits, by improper nutrition, especially immoderate and over-rich diet and alcoholics. He also thinks that climate, probably in some way as yet unexplained, has an influence. Anatomically the disorder must be designated as an interstitial myositis, usually with inflammatory processes in adjacent tissues, the fasciæ, subcutaneous and fatty tissues and especially the nerves; in the latter the process is likewise that of interstitial neuritis. As sequelæ of the inflammation there are cellular infiltration, connective-tissue indurations, and sometimes even the complete fibrosis of the muscles. These generally exist after the abatement of the inflammation, and give rise to more or less frequent relapses and manifold functional disturbances. Medicinal treatment is indicated in the acute more or less febrile stage. As soon as this is over mechanical treatment is needed, especially adequate and proper massage, to bring about absorption of the infiltrations and indurations and to restore the muscle to its normal conditions. Since this paper was written he adds a postscript. Wassermann has succeeded in isolating a streptococcus from the blood and viscera in a case of endocarditis, nephritis and chorea following rheumatism. Cultures of this in the rabbit invariably cause polyarticular rheumatism. This he thinks is suggestive of other micro-organisms being found for muscular rheumatism.

2. **Treatment of Cancer.**—The conclusions of Robinson's paper and summary of his arguments are as follows: 1. We know of no drug, animal extract, serum, nor toxin, which, given internally by any avenue of the body, can be relied on for the cure of cancer of any part of the system. 2. The statement that the knife is the only reliable agent in the treatment of cancer is not correct. 3. Certain caustics judiciously chosen and properly applied may attack deposits of the growth inaccessible to the knife, and in these cases should be employed even if the knife is necessary to prepare the way for their use. 4. In some cases both the knife and caustics should be used, and in some other cases curettage, followed by a caustic, is the proper procedure. 5. The majority of cases of cutaneous cancer can be removed with the greatest certainty and with least deformity by caustics, provided the patients are seen before the lymphatic glands are invaded. 6. The knife should be used when the lymphatic glands are invaded, and, also in some other cases of external cancer.

3. **Cardinal Pathognomonic Sign of Colles' Fracture.**—Warne calls attention to the unreliability of the occurrence of silver-fork deformity in Colles' fracture, notwithstanding the prominence that has been given it, and believes he has now found a pathologic sign in the fact that the styloid of the radius is at a lower level than the styloid of the ulna. With the hand in a prone position and on the same plane with the bones of the forearm, this sign is most readily ascertained by impinging the thumb and index finger against the styloids; and projecting the line between these two points, it will take an oblique course, slanting to the radial side. The only mention of this sign that is known to him is in Stimson's treatise on "Fractures and Dislocations." In estimating, the normal wrist must be taken in comparison. The facility of its clinical application renders it of greater value; he calls it a "cardinal pathogmonic sign of Colles' fracture."

5. **Myocarditis in Infancy and Childhood.**—After first noticing the lack of mention of the subject in text-books, and the fact that in daily practice myocarditis is one of the most trying and one of the most important conditions, Koplik reviews the facts known in regard to its pathology and in acute infectious disease. It is more frequent than is supposed, and it is not always as fatal as text-books would lead us to suppose. The muscle of the infant's heart must be capable of restoration to a larger extent than would be supposed when we consider the vast number of infections to which it is subject. He notices the striking effects of diphtheria antitoxin, showing that the toxic action of the disease has been arrested not only in other organs but in the muscle fiber of the heart itself. He then reviews the various conditions in which this complication may occur, with illustrative cases, such as syncopal attacks and infectious pneumonias, pertussis, etc. The prognosis of rheumatic cardiac affections is much more favorable in children than in adults, but the most trying cases are those of adherent pericarditis. The possibility of diagnosis during life and the puzzling character of the problem are noticed, and the author points out the symptoms which should put us on our guard. If, in the course of an infectious disease, we have attacks of faintness, pallor, vomiting, disturbed and very irregular heart action, a persistent distortion of the respiration and pulse ratio as in adherent pericardium, it is certainly significant, especially if these attacks have a tendency to recur. If examination of the heart shows extreme weakness of the apex-beat, weakness of the first sound, or disappearance of its muscular quality, greater intensity of the second sound at the apex, with intensification of the second sound at the pulmonic orifice, we certainly in these have danger signals of greatest moment. If, in addition, as i[illegible]sis, we other signs of cardiac insufficiency, su[illegible] at the apex, edema of the face and

cyanosis, disinclination to exertion, constant drowsiness, it would be certainly narrow, in view of our pathologic and experimental knowledge, not to entertain the possible existence of serious degenerative changes in the heart muscle. We should never forget that in the heart we have healthy tissue on which our drugs and methods are supposed to act. We must not exhaust these healthy foci by powerful drugs or harsh measures; the strength must rather be fostered. The hope of these cases then lies in well-sustained nutrition.

6. **Uterine Fibroids in Pregnancy.**—Remarking first that fibroid of the uterus does not necessarily imperil life, but its situation renders it important, and that pregnancy probably occurs more frequently in fibroid uterus than was formerly supposed to be the case, Ford discusses its dangers. They are chiefly rupture of the imperfectly developed fibroids, the prevention of the normal first stage by the presence of inelastic tissue of the neck or displacement of the uterus so as to distort the natural birth passages, and finally sepsis following infection after delivery. He reports a number of cases, with illustrations, which seem to him to indicate that the rule may be established that where the lower third of the uterus and the entire cervix are free from neoplasms, the physician may safely await the result, even if the fibroid is of considerable size. If any considerable fibroid is found opposite the internal os, especially if it blocks the canal, questions as to early operative interference may arise and the answers are governed by its position. The dangerous position of the fibroid is in the anterior wall of the uterus, low down, as it would interfere with Cesarean operation. Impacted fibroid requires early hysterectomy unless it can be released or is so high as not to involve the lower third of the organ. Rupture is sometimes caused by a small fibroid in the lower uterus or cervix after delivery at term or miscarriage. If fibroid exists and becomes infected, hysterectomy should be done at once, and in every case of fibroid uterus where pregnancy occurs, the patient should be carefully watched, especially if it exists in the lower half of the uterus.

7. **Toxins.**—Austin and Coriat's paper is a general discussion of the subject of toxin production and the nature of toxins, with a report of experiments. The greatest difficulty they had was in the small amount of substances which could be obtained, and while they say that no special new points were developed, they hope to continue the researches with greater results.

8.—See last week's Journal, ¶21, p. 865.

9. **Treatment of Whooping-cough.**—Coggeshall, after first noticing the methods reported, suggests cocainization of as much of the mucous nasal membrane as can be done with a spray, followed by cotton tipped probes wet with the solution, and application of a 2 or 4 per cent. nitrate of silver solution to the nose and nasopharynx, to be followed by a mild alkaline and antiseptic wash by spray or post-nasal douching. This treatment is hardly adapted to young infants, but can be used for children of 3 years or over. He believes that the good effect of belladonna is partly due to its action on the nasal mucous membrane in this disease, and he suggests the use of suprarenal extract.

10. **Gunshot Wounds.**—From experience of gunshot cases in the Spanish-American War, Borden concludes that if antiseptic methods were in use during the Civil War, the results would have been so different that it would have been seen that it is surgical methods and not a particular bullet that most influences the results. We are giving too much credit to the humane character of the modern military projectiles. In his experience he had not only wounds from Mauser bullets, but shell, shrapnel and revolver wounds, and he believes that in some cases the new bullet produces wounds as destructive as those made by the old slow-going projectile. Shell wounds are generally infected, and therefore differ from the majority of gunshot wounds that are properly treated in the field. The treatment must be rather antiseptic than aseptic. Shrapnel wounds, which from the character of the missile would be supposed to produce the same effects as old lead bullets, he finds, if proper first treatment is used, are very much like those of the small-caliber jacketed missile. If these had been probed according to old methods, the results would have been similar to former experiences. The principal point made in his paper is, as he said in the beginning, that it is modern surgical methods rather than the character of the weapon which have most to do with success of modern military surgery, though something must be allowed for the small-caliber and rapidity of modern rifle projectiles. The article is to be continued.

11. **Tumor of Cerebellum and Drainage of Fluid Through Nose.**—McCaskey reports a case of cerebellar tumor in a young woman, which presents some peculiar features. The patient lost her hearing for a period of three months, but about two months before death she began to have a free discharge of serous fluid from the right nostril, which ran a steady stream or dropping amounting to several ounces a day, and with this her hearing returned. The tumor was a mixed angioma originating on the anterior margin of the left lobe of the cerebellum. Another point of interest in the case was the great intensity of optic neuritis of the side corresponding to the tumor. The patient died in a convulsion about three years after the first examination.

13. **Nasal Discharge of Cerebrospinal Fluid.**—The literature of this subject is noted by Freudenthal. He finds that there has been but one case similar to the one he reports, published in this country, though two other cases are somewhat doubtful. The most important publication on the subject is that of St. Clair Thomson, which has been previously noticed in The Journal. In Freudenthal's patient the discharge is regular though it had been subject to intermissions and these were associated with symptoms of brain pressure. Before the flow commenced also the serious brain symptoms were present and disappeared at its onset. He is inclined to think there may be a tumor in the brain situated near the optic chiasma. He discusses the diagnosis of cerebrospinal fluid from other forms of nasal hydrorrhea, and thinks that the absence of mucin and presence of reducing substance—sugar—suffice to confirm the opinion that the serum is of cerebrospinal origin. He calls attention to the fact that in the majority of cases reported thus far, the left nostril was the route of discharge; why this should be is not determined. Treatment is hopeless; no attempt should be made to stop the flow. In his case the recurrence of serious symptoms during intermissions is so evident that the patient herself appreciates this.

15. **Rheumatic Periostitis.**—From the case here reported, in which there was a periosteal inflammation on the sternum and the clavicle, together with rheumatic swellings of the ankles and knees, Stern believes that there is such a thing as rheumatic periostitis and that this is evidence of the infectious nature of rheumatism. As yet we have not been able to determine the organisms producing the disease, but knowing the general nature is a step toward a better understanding and treatment.

16. **Leucocytosis.**—Burch estimates the normal number of leucocytes as two polymorphonuclear leucocytes to each microscopic field, one small lymphocyte to every five fields, one large lymphocyte to each ten, and one eosinophile to twenty fields. This necessitates counting the number found in at least twenty-five, or better, 100 fields, and averaging the total found in this way. He thinks reliance can be placed on the aforesaid ratio. He has examined various diseases, pneumonia, typhoid, and tuberculosis, as regards their leucocytes and he reports several cases illustrating the value of blood examination in different disorders. In one he found diagnosed appendicitis transformed into a case of impacted colon. In another acute tuberculosis was revealed, and in a third syphilis was suggested from the microscopic blood examination.

17. **Typhoid Spine.**—The condition to which this name was given by Gibney, and which was considered by him to be due to a perispondylitis, and by Osler a neurosis, is illustrated here by a case reported by Lovett and Withington. In this instance there was a well-marked knuckle or projection of the spine in the lower dorsal region, which was evidently due to a destructive inflammation of the vertebral bodies. A periostitis could not explain it; one must assume an osteomyelitis to have been present. As far as the writers have learned this is the only case of well-authenticated typhoid spine accompanied

by deformity. Had the deformity not appeared it would have been considered a post-typhoid neurosis.

18. **Idiopathic Pneumohematothorax.**—A case reported by Boland is of interest as being an instance of apparent idiopathic pneumohematothorax of primary origin. It suggests, as the author says, that: 1, we can have (practically) a primary pneumohematothorax; 2, without diagnostic aspiration we can not be sure of the nature of any pleural effusion; 3, aspiration may precipitate an influx of air into the pleural cavity even if the lung is not touched by the needle; 4, the pleural cavity can, unaided, take care of aseptic blood as well as of air.

20. **Home Modification of Cow's Milk.**—The difficulties of home modification of cow's milk for infant diet are pointed out by Woodruff. He says that in the first place we should know the exact composition of the ingredients, which is impossible outside of the laboratory. There is a wide difference between milk from different cows, or from the same cow, and it is practically impossible to tell the extent except by analysis of its composition. In the second place even in the human milk there are marked variations, all of which may be tolerated by the healthy babies since they live in spite of bad feeding. Absolute accuracy can not be so important as we are told. In the third place accuracy is ruined by the inaccuracies of woman's methods. She does everything by rule of thumb: we have to guess to keep up with her guessing. In the fourth place infants vary so greatly that it is difficult to say what one will stand, and in the fifth place specialists are not agreed as to the exact proportions of proteids, fats and sugars to use. He sums up the average recommendations of specialists and in conclusion speaks of the importance of pasteurization or thorough sterilization. He says that if most breast-fed infants really get 1.5 per cent. of proteids, 4 per cent. of fat and 6 to 7 per cent. of sugar then we will not be much in error for all babies over eight weeks old, if we dilute 3 parts of a 10 or 11 per cent. cream with 5 parts of water and add 5 or 6 level teaspoonfuls of milk-sugar, the total amount being the stomach-capacity multiplied by the number of feedings, and this rule of thumb may be as near as we can come to accuracy in the average household.

21. **Poliencephalomyelitis in Adult.**—The case reported by Sherman and Spiller, in detail, with autopsy findings and pathologic report, presented a clinical picture of Landry's paralysis. Dr. Spiller, in his summary of the pathologic findings, discusses the literature of similar cases and concludes that: 1. Landry's paralysis may be due to poliomyelitis, and a number of cases reported under the name of Landry's paralysis are cases of poliomyelitis. 2. Poliomyelitis is an infectious disease, probably resulting from invasion by different forms of bacteria, and the inflammation is greatest in the anterior horns, but occurs in the posterior horns, in the white matter and meninges. 3. The symptoms are motor in type because the diesase is especially one of the anterior horns. 4. Meningitis is not uncommon in poliomyelitis. 5. Poliomyelitis in the adult is essentially the same disease as poliomyelitis in the child. 6. Poliomyelitis is closely related pathologically to the nonpurulent form of encephalitis and to the polienecephalitis superior of Wernicke.

22. **Leukemia.**—The frequency of chronic leukemia, in the University Hospital at Ann Arbor is noticed by Dock, who compares it with the observations of others and calls attention to the peculiarities and difficulty of its diagnosis. He holds that routine exact examination of the blood is necessary if we are ever to recognize the disorder in its first stage, and he also points out the methods for distinguishing splenic tumor from that of other organs. In general leukemia is not diagnosed until both leucocytes and red corpuscles are markedly altered from the normal.

23. **Effect of Blows on Lower Chest and Epigastrium.**—After giving the methods of research and details of his experience, with blood-pressure tracings, Crile concludes that no amount of injury inflicted on the solar plexus, directly or indirectly, is capable of causing any inhibitory action on the heart, and such injury in no case contributed to immediate death or collapse. Its effect was to produce a vasodilation of the "splanchnic area," causing a gradual decline in blood-pressure. While the abdomen is open and the diaphragm protected from violence, blows on the stomach produce little effect on blood-pressure or respiration, but where the diaphragm is not protected the blows on the pit of the stomach sometimes produce a momentary staggering fall in the blood-pressure. Pressure suddenly applied or blows directly on the diaphragm within the cardiac zone, usually produce a marked drop. Even careful pressing of the hand upward against the diaphragm so as to produce an interference with the free movement of the apex causes very great cardiac irregularity and irregularity of blood-pressure. Blows on the lower chest, especially over the cardiac area, produce various results, in one case immediate death followed. Respiratory action is also suddenly arrested. The commonest result was a great drop in blood-pressure—a collapse with gradual restoration. The results vary somewhat in different animals, but as a general rule the nearer the blows are given over the center of the cardiac dulness the greater the effect. Blows on the naked heart produce similar though more pronounced effects. The evidence seems to show that the solar plexus may be disregarded as a factor, and the result is due to mechanical effects and violence either on the heart itself or its nerve mechanism. Though both vagi have been previously severed, similar results are produced and he holds that collapse and death may be caused wholly independent of the vagi, though the vagi probably usually contribute somewhat to the results. The causes of collapse and death from violence on the lower chest and abdomen are due mainly to loss of rhythmic contractions from the mechanical irritation of the heart-muscle itself.

25. See abstract in The Journal of March 3, p. 560.

26. **Fistula of Pharynx.**—Freudenthal reports a case of fistula of the pharynx, connected with disease of the ethmoidal and frontal sinus, which was completely relieved by attention to those parts. He thinks the infection first took place through the pus burrowing down from the ethmoid through the sinus maxillaris and from there through the fistulous tract to the pharynx.

28. **Diagnosis and Treatment of Fractures.**—Stimson points out the difficulties and the simple means often available in diagnosing the various fractures, for instance on the upper end of the humerus in a fleshy person, which is readily diagnosed by longitudinal pressure of the bone, or ulna, which can be told by holding the hand in your own and asking the patient to press against it. Colles' fracture is diagnosed by pressing the hand up toward the elbow straight or a little to the upper side, causing pain. In the leg, the test of pressure along the line of pain is also of value in a similar way. He also calls attention to the dangers of too much manipulation in fractures, especially of the neck of the femur, by taking away the periosteal bridge by which the bone is nourished. In any case the old rule of Hodgson is still applicable in any case of injury to an old man or woman where there is a disability of the limb; treat it as a fracture of the neck of the femur. If we could have only one sign of fracture, he would ask for pain, pain in pressing the ends of the long bones together, pain in pressing along the line of fracture, pain in the exercise of the function of the limb, for a diagnosis. This applies only to fractures in the continuity of the long bones. In fractures that are not along the line of pressure this does not apply. In regard to treatment, in any injury of the hip in an old person, it should be treated as fracture of the neck of the femur. In the treatment of some cases, details do not count, in others they are of very great importance, especially in articular fractures, in oblique fractures where the displacement is great, or where the sharp ends penetrate the tissues. In these cases we should spare no pains to get the details of the fracture and the displacement. In some cases of extensive injuries we wonder whether the tissues are dead, and whether the limb can be saved; he gives as a simple test the use of the Esmarch bandage. If this is applied for five minutes and the limb and parts noted where the blushi[illegible] does not ap[illegible] and where it remains white, that skin is [illegible] al[illegible]. in cases where great violence has [illegible] satisfied with finding one fractu[illegible]

trouble. As regards plaster-of-Paris encasements, he prefers to wait until the swelling has gone down, and it should always be inspected the day after its application. The author mentions ischemic contracture of the fingers due to insufficient blood-supply. He remarks also on the splints for limbs and on dislocations, and calls attention to the use of gravity in reducing dislocations of the shoulder and hip.

39. **Paresthesia Sexualis.**—Styll's article is a discussion of the case of a murderer of the Jack the Ripper type, in whom a cyst was found in the anterior part of the angular convolution of the right hemisphere, which the author correlates with the sexual perversion.

40. **Home and Asylum Treatment of Inebriety.**—The points which Crothers wishes to make prominent in this article are summed up in the following: 1. The treatment of inebriety extends back twenty centuries and more, and the recognition as a disease is still more ancient. 2. Its prominence and the increasing urgency for relief from medical men demands a new study of the whole subject along a scientific line. 3. The inebriate is literally poisoned, and starved, and degenerate, and there is no mystery about his condition or the results of treatment. 4. The possibility of restoration and cure is established beyond question. 5. Gold and other specific cures are only the application of common remedies, which every physician could use with great skill and success. 6. Every case can be restored and many of them permanently cured, by the intelligent co-operation of the family and asylum physicians. Both home and asylum treatment are invaluable. 7. The public treatment of pauper inebriates and the incurable classes will be carried on in workhouse hospitals specially organized for this class. The treatment for those able to pay will be in special private hospitals, where the best means of science can be combined to meet the wants of each case. 8. The successful cure and prevention of inebriety is largely an unoccupied medical field, the solution of which opens up a new realm of practice, promising the greatest possibilities, which, in the near future, will be occupied.

48. **Extrauterine Pregnancy.**—In the case reported by Lufkin, the fetus went to term apparently free in the abdominal cavity. There were none of the signs of any limiting sac, and he discusses the opinions in regard to the possibility of such a condition. He himself is of the opinion that it was a free intraperitoneal pregnancy from not later than the third month.

49. **Ventrosuspension.**—Gilliam reports his modifications of Ferguson's method of suspending the uterus by the round ligament. The basis of the principle of the operation is the invagination of the proximal portion of the round ligaments in the abdominal wall as evolved by Ferguson. The successive steps of the operation modified by Gilliam are: 1. A median abdominal section three to four inches long in the usual position. 2. Break up adhesions and bring fundus forward. 3. Seize the Fallopian tube and bring it to the opening, for which purpose he has devised two special forceps. 4. Carry a heavy silk thread under the ligament close to the forceps in such a manner as to include a little of the tissue of the broad ligament. 5. The forceps holding the tubes and round ligaments are now removed. 6. The other round ligament is secured in the same way and the ends of the thread brought out of the abdomen and held in the bite of another clamp forceps. 7. Retract the skin and superficial fat on one side until an inch or more of the rectus muscle is exposed. 8. Thrust the perforating forceps through into the peritoneal cavity and seize the thread which holds the round ligament. 9. Remove the clamp forceps from the thread. 10. Withdraw the perforating forceps. 11. While the ligament is held taut, fasten it into the wound by catgut sutures passed through its base and including the tissue of the other side including the entire thickness of the wall. 12. The exposed free loop of the ligament is now spread out on either side of its point of emergence and tacked down with catgut so as to form a button or bar. This is intended to prevent retraction. 13. Treat the opposite side in the same manner. 14. Close the median abdominal incision.

50. **Suspension of Uterus.**—Morris also describes a similar operation as follows: The abdomen is opened in the middle line. A hook is inserted through the round ligament at a point midway between the uterus and the inner inguinal ring. The round ligament is angulated by strong traction on the hook. The peritoneum is stripped away from the ectad face of the angulated ligament, but remains attached at the base of the angle. Two parts of the bared round ligament are approximated at the base of the angle with a suture of chromicized catgut. This throws two or more inches of the round ligament out of the function. The bare face of the loop of the ligament that is thrown out of function is re-covered with a flap of peritoneum that previously belonged to it. The other round ligament is treated in the same way. He has done this in some twenty cases, with success so far as the operation is concerned; the results during and after pregnancy are yet to be seen and this note is published at this time in order to fix the responsibility for the operation.

51. **Vomiting of Pregnancy.**—After reporting a case Davis summarizes the salient features of the condition as follows: In a considerable number of cases of pernicious nausea of pregnancy the womb is sharply anteflexed and the cervix extraordinarily thickened. The pelvic organs are forced strongly downward and forward, and a contracted condition of the pelvic fascia and muscular tissue is present, which may be termed "pelvic tenesmus." In other cases the uterus is retroflexed or retroverted. These patients are much relieved by raising the uterus as far as possible in the pelvis and by stretching the cervix. The latter is done at the risk of bringing on abortion, but is sometimes effective in stopping nausea and in enabling the patient to go to term. The salient feature in the symptoms of these cases is nausea and not vomiting. Many of the worst cases vomit but once or twice in twenty-four hours, but are nauseated while awake. Coupled with this, and resulting from it, is the profound mental and physical depression from which these patients suffer. Especially significant in the symptomatology of these is the obstinate, boring, burning pain beneath the sternum, and the discharge in the vomit or bowel movements of coffee-ground material, which is recognized as decomposed hemoglobin. He has found no adequate explanation for the substernal pain, although it has been noted in other patients, not pregnant, who suffer from pernicious anemia. Coffee-ground vomit has been observed repeatedly in nephritic patients and in those suffering from extensive degenerative disease. He finds that in successful treatment the patient should be fed, put to absolute rest and her strength so recruited that her nausea gradually ceases, then she can go on to recovery. The replacement of the uterus to a better position and stretching of the pelvic and cervical tissues is an important aid. Unless these measures succeed the pregnancy must be ended.

53. **Care of Intestine in Abdominal Section.**—The points made by Baldwin are the administration of morphin and atropin as an aid to the ether anesthesia; the anticipation of uterine paralysis by the administration of a laxative prior to anesthesia, which he has followed as a routine practice with good results. He also insists on the importance of a small incision and as little use of packing as possible. Cleansing of the abdominal cavity is best done, he thinks, by means of a large funnel with rubber tube, the latter passing completely to the bottom of the pelvis before allowing the water to run—thus floating off all debris from the bottom. When this is satisfactorily done he siphons out the water. The abdomen may be filled with a fresh salt solution; the amount left will vary in different cases. Every case of abdominal section before being removed from the tables receives an enema consisting of one quart of normal salt solution, one ounce of whisky, and twelve minims of Squibb's compound of opium. The normal salt solution injection, without the whisky and opium, in half the amount is repeated every two or three hours until the patient is able to take food by the mouth, which is encouraged as early as possible. To keep the intestines out of the pelvis Clark's method is used. He secures the free action of the bowel at the end of twenty-four hours by the measures already described and the administration of from 10 to 15 grains of

calomel in capsule, twelve hours after operation, followed about six hours later by administration of Epsom salts dissolved in hot water. At the first evidence of distension of the large intestine high enemas are commenced and not discontinued until gaseous or fecal movements have been secured. He notices Byford's suggestion of producing early movements of the bowels, and recommends Watkins' formula for enemas of two ounces of Epsom salt, one of glycerin and three of water, given through a large tube.

54. **Uterine and Vaginal Duplications.**—Wells' paper is an analysis of 112 cases of duplication of the female genitalis.

60. **Panas Operation for Strabismus.**—This operation consists essentially in stretching the muscles before the division and dividing interni or externi muscles as the case may require. Roosa reports 36 cases, 31 personal ones, with results. The perfect results—so-called parallelism of the eyes—resulted in 32 of the 36. The other 4 are still under observation and ultimate cure is hoped for. The dread of over-effect of stretching the muscles and their simultaneous division is, he thinks, unwarranted.

67.—See abstract in The Journal of February 24, p. 497.

70. **Deficient Urinary Excretion in Skin Diseases.**—Bulkley gives a study of 2000 urinary analyses in patients suffering with skin disease, with results not very conclusive as regards any specific positive facts. They do not indicate that any special urinary changes can be demonstrated as having direct connection with any particular skin lesions, but they do show evidence of deranged assimilation and dis-assimilation. Very few represented the urine of normal health.

71. **Catheterization of Ureters.**—Lilienthal's paper is largely a protest against the practice of catheterizing sound ureters. He thinks that while the value of catheterization of the diseased side is great, that of the other is perilous and hardly justified by the needs of the case. In some cases the kidney may be unmistakably palpated, in others the mouth of the ureter may be inspected with the cystoscope and when these means fail, at the time of the contemplated nephrectomy, a small incision can be made which will permit of the ocular demonstration of the condition of the other kidney without serious additional risk. If catheterization of the other ureter is practiced it is by no means certain, as Wossidlo says, that the kidney which functionates normally before nephrectomy will continue to do so afterward.

73. **Impotence in the Male.**—Zabludowski recommends general massage: 1. Directed to the genital apparatus and its vicinity. 2. To the spine by means of reflexes. 3. To the body generally, the vessels and lymphatics. 4. To the brain centers, giving rise there to certain images. The necessity of avoiding sexual excitement during treatment, and of healthful bodily exercise within the fatigue limit should be emphasized. The following are given as special directions: 1. In case of pollution, the sleeping arrangements must be changed from bed to sofa, with a bolster under the feet. In one severe case of over twenty years' standing a remarkable result was effected by directing him to use at night, in place of the bathing-trunk to which he was accustomed, a condom. The emissions ceased. Beverages at night are forbidden, and the supper hour changed. 2. In cases of spermatorrhea from interrupted coitus, and in cases of prostatorrhea, particular attention is given to the massage of the prostate and abdomen and the habit replaced by the use (in the women) of occlusive pessaries. 3. In cases of general disturbance after the shock or exhausting illness, general massage is most beneficial, especially on the heart. This massage works in diabetes and obesity as a compensation for a strict dietary regimen. 4. A good prognosis should always be given to men about to marry, who are fearful of their sexual capacity, and to married men whose intercourse is obstructed by vaginismus. These do well. 5. In relative impotence, absence of erection in familiar conditions, a change brings about good results. 6. When there is disturbance in the secretion of urine, particular attention is paid to the perineum and bladder, and sleeping arrangements are changed. Benefit is sometimes secured by sleeping on some unusual material, such as rubber, leather, or linoleum.

74.—See abstract in The Journal of October 28, 1899, p. 1104.

82.—Ibid., February 17, p. 425.

87. **Mechanical Treatment of Sciatica.**—The method indorsed by Hunt is the use of the Hodgen splint, giving rest to the parts by suspension. He finds it a most valuable agent in the treatment of this disorder, and reports several cases.

88.—See abstract in The Journal of June 3, 1899, p. 1257.

89. **Medicolegal Aspect of Bright's Disease.**—Barlow believes that many cases of Bright's disease are accompanied by testamentary incapacity, and reports one or two instances. He thinks that any person suffering from nephritis with any cerebral symptoms should have his mental capacity tested before making his will.

92.—See abstract in The Journal of June 3, 1899, p. 1257.

96.—Ibid., January 27, p. 233.

97. **Abdominal Tumors.**—This article largely covers the ground of the paper published in The Journal, Feb. 11, 1899. The author calls attention to the importance of distention of the colon in locating the region of the tumor, of segregation of the urine in differentiation between the different tumors, and of analyzing the range of motion in movable tumors as of value in diagnosis.

98. **Oophorectomy for Functional Nervous Diseases.**—Brockman reports four cases of oöphorectomy in which he believes hysteria and insanity were relieved. He thinks the conservatism of alienists and neurologists in regard to this operation for such cases is not altogether justifiable.

103.—See abstract in The Journal of January 20, p. 166.

105. **Snow-Blindness.**—Mitchell describes a case of snow-blindness, and mentions the apparatus used in Alaska by the miners. He does not allow much value to colored glasses. The real remedy is a wooden goggle made somewhat after the plan of pinhole spectacles.

110. **Chloretone.**—This new drug is stated by Morton to have a decided value in ophthalmic practice, due to its antiseptic properties combined with its mild anesthetic action without affecting the pupil or accommodation. It is also free from undesirable properties of disturbing corneal epithelium like cocain, and another very decided advantage of it is as a preservative to other drugs, suprarenal extract for example, which has always had to be specially prepared, but which can be kept for some time with a small addition of chloretone.

123. **Lethargy and Trance.**—Madden discusses the subject of trance, and reproduces the literature of a number of interesting cases that have been reported. While many reported ones are apocryphal, there are some well-substantiated instances that show the danger of premature interment.

124. **Etiology of Acute Tonsillitis.**—According to Class, acute anginas may be thus classified according to their importance: 1. Those caused by the pneumococcus. 2. Those caused by the diphtheria bacillus. 3. Those caused by the streptococcus. 4. Those caused by the diplococcus scarlatinæ. 5. Those caused by the influenza bacillus. 6. Those caused by the staphylococcus pyogenes. 7. Mixed infections, two or more of the above germs being present in each case. These do not include absolutely all, as there may still be unidentified germs, and the anginas met with in measles and smallpox, which are probably due to specific contagion. Something like the pneumococcus zymogenes is sometimes found in throat cultures, which suggests a solution regarding the connection between anginas and the occasional subsequent endocarditis. Each of these forms is discussed separately, and the author urges giving more thought to the bacteriology of throat infections.

134. **Formic Aldehyde in Milk.**—Moechel is strongly in favor of the use of small quantities of formaldehyde as a milk preservative. His experiments were made on not only animals, but human beings, and therapeutic experiments on children. As a result he believes the proper percentage of formaldehyde should be allowed to be a benefit rather than deleterious in milk, and that it is much better than the process of pasteurization, which destroys the amylolytic property possessed by raw milk, modifies the butter fat and changes mi [illegible] int caramel. The reasons he gives for his opi [illegible] r

formaldehyde are: "1. It does not interfere with the human gastric, intestinal or ptyalin digestion. 2. Infants that did not prosper with various kinds of infants' food and milks, also cows' milk prepared according to the best authorities,, at once changed for the better when supplied with milk treated with formaldehyde—and they continued to augment in weight and health. 3. An insignificant amount, 1 to 150,000, and not more than 1 in 50,000 preserved the milk from souring for a few days. Whether the same percentage destroys the bacteria or inhibits their growth will be shown by further investigations, now under way. Formaldehyde is the best milk preservative and does not introduce any mineral matter. These conclusions are preliminary, as our conclusions are not yet finished, but they are based upon strong facts, which we obtained from experiments made by us up to the present time. In order to prevent decomposition of milk, we regard it as entirely admissible to add formaldehyde (pure) in proper quantity after milking and not later, and therefore by the only permissible one, the dairyman." The proper percentage of formaldehyde seems to be about 1/80,000, according to the results of experiments in infant feeding reported to Moechel by Dr. F. W. Frœhling, who conducted this part of the investigation.

136. **Grant's Operation for Restoration of Lip.**—Wooten reports a case of Grant's cheiloplastic operation for restoration of the lip after excision for epithelioma. This consists of a square incision connected at the corners with oblique ones on the chin instead of the V-shaped incision. The advantages of the operation are, he claims: 1. The incisions are confined to the mobile, elastic portions of the lip and cheek, allowing dissections where necessary from the alveoli; the large, well nourished triangular flaps can be slid over the chin and make traction on the whole cheek and none on the chin. 2. There is less tension of the lip; it is more prominent and natural in consequence, therefore it is more flexible in use. 3. There is less necessity for resorting to accessory operations to restore size and shape of mouth, which is less apt to be disfigured by this operation than any other. 4. The removal of all submaxillary gland tissue can be easily accomplished by the continuations of the same oblique incisions over the rami of the jaw.

FOREIGN.

British Medical Journal, March 25.

The Lettsomian Lectures, Being Practical Observations on Cancer of the Breast. Wm. Banks.—In this second lecture Banks first notices the errors about heredity, which he previously discussed, and the very serious error in regard to pain. The presence of pain is usually associated with cancer, so that its absence generally means to the patient that there is no cancer. There are, unfortunately, few neoplasms in their beginnings less accompanied with pain. The old statement in regard to skin adhesions and nipple retraction, which is only necessarily present when it is situated under the nipple is an error. One of the most striking symptoms is what he calls a "pigskin" appearance, which appears on a portion of the skin when pinched between the finger and thumb, and consists in fine points due to a number of hair follicles caught and tucked down by the cancer. This he considers as certainly indicative of subjacent carcinoma. The conditions that simulate cancer are next noticed, chronic mastitis, fibroadenoma and small simple cysts. His method of examination is described. He never removes a breast without first cutting into the tumor, and he frequently uses a small exploring trocar and canula for diagnosis. He always examines a breast tumor in three positions, standing behind the patient and having her press against him, examining from the front and when the patient is in a dorsal position. He considers the first method of very great importance in examining for anything on the anterior surface of the trunk and neck. After noticing the occasional occurrence of insanity after operation on the breast, which has long been observed, Banks describes chronic interstitial mastitis at length, and its possible malignant transformation. He thinks that early diagnosis of cancer is the most important thing, and if in any case the evidence seems to make for nothing worse than chronic mastitis, he treats for that condition, but keeps the patient under close observation until all the induration has subsided. On the other hand, if there is any probability of cancer, he thinks extirpation of the breast justifiable and the diagnosis can be made certain at the operation by the passage of the knife through the tumor. As regards the proportion of cases in which there is transformation of mastitis into cancer cases, the statistics fail us. He does not believe that milk abscesses leave behind them induration which degenerates into carcinoma.

Vomiting: Some of its Surgical Aspects; Especially with Reference to a Feculent Vomit, Which is Sometimes Curative. William H. Bennett.—In this address, two classes of vomiting are considered: Those due to the anesthetic or to certain conditions of disease which necessarily lead to vomiting under any circumstances, whether operation be performed or not, and certain other cases hitherto unrecorded in which vomiting of a particular grave form as commonly understood, proves in the end to be curative. That connected with operation may be divided into that which is the result of an anesthetic and that which is caused by disease from which the patient suffers. When caused by anesthesia also it may be directly after the operation or may be deferred till some days or hours later. When it is due to disease it may be dangerous through septic infection of the lungs, portions of foul vomit being inspired into the air-passages, producing pneumonia. In this it is really not the anesthetic in the ordinary acceptance of the term that is the cause. He advises that we previously wash out the stomach, cleaning it of offensive material or half-digested food so as to prevent a possibility of a lung implication. This is also valuable in ordinary post-anesthetic vomiting. Usually this is not dangerous, but in some cases when it is deferred for hours or days it may be very serious. In these patients, if the stomach has not been emptied of vomit it is a good practice, if the condition of the patient will permit, to use the lavage. The second class of cases to which he refers are those in which feculent vomiting occurs in cases of apparent obstruction, and he reports several cases where this form of vomiting was followed by immediate relief. From careful consideration of the subject he concludes that: "1. Feculent or stercoraceous vomiting occurs more commonly than supposed in cases in which no mortal disease exists. The occurrence of feculent vomiting must of necessity be a grave symptom, but it is not always followed by death, even though nothing be done for the patient from a surgical point of view. 2. In certain cases the vomiting is curative, inasmuch as it empties the bowel and stomach of accumulated contents which for the time being are unable to find their way downward in the normal way. This view is supported by the fact that in such cases as I have narrated, a very copious and as it were final vomit immediately preceded the change of the patient from an apparently hopeless state to the commencement of recovery." If the abdominal distension continues, however, after the vomiting the case is still serious.

New Method of Performing Perineal Prostatectomy. P. J. Freyer.—The author describes a case in which he operated by first opening the urethra in front of the prostate, on the staff, and then making a crescentic incision about four inches long from the opening backward around the anus to the coccyx on the right side, carrying the dissection deep into the ischiorectal fossæ, the rectum being pulled inward by a broad retractor. The tumor was then passed out of the wound by the left forefinger being hooked around it in the bladder. The capsule of the prostate was incised and peeled off and the tumor, which involved the right lobe of the prostate, removed piecemeal by cutting forceps and curved scissors, only a thin layer being left to support the mucous membrane of the bladder and prostatic urethra. A soft rubber perineal tube was passed through the urethral opening into the bladder, and retained there by a suture. The large gaping wound was packed with iodoform gauze and the usual dressings applied. The recovery of the 59-year-old patient was good, and he was sitting up in about six weeks, and shortly after quite well. The tumor was of a fibroadenomatous type. The author sums up the advantages of this method, which consist chiefly of the ability to thoroughly examine the tumor and the avoidance of dangerous dissection as in Dittel's operation, and the guide-furnished by the finger in the bladder. It is only adapted to certain patients, not, for example, for those with enlarged middle lobe projecting into the vesical cavity, and in very fat patients the finger may not be long enough to reach into the bladder and hook the tumor.

The Lancet, March 24.

The Typhoid Bacillus and Typhoid Fever. P. Horton-Smith.—After first describing the typhoid bacillus and its characters, the author gives the values of the different tests, of which he considers the agglutination one, carried out in high dilutions, and Pfeiffer's test the most accurate, but the others are not to be neglected. They are long and tedious, but we know so little as yet of saprophytes that they are necessary. The author considers that there is no proof that the typhoid bacillus can multiply outside of the body, though with our increasing knowledge of the disease we can explain many outbreaks without such an assumption. He notices the toxins and their possibility of diffusion and distribution of the bacillus in the human organs. The following data seem to him assured; the typhoid bacillus must always be found in the stools at the early period of disease. It can always be demonstrated in Peyer's patches and the mesenteric glands. It does not, however, remain limited to this space, but very soon and in all cases passes into the blood, by means of which it is distributed to the most diverse organs; thus it can always be found in the spleen and liver. It gives rise to the typical eruptions of the skin and is almost always present in the marrow of the bones and in the bile. It is frequently present in the urine and is commonly found in the kidney; occasionally it may be detected in the lungs and sometimes in other organs. The old conception of typhoid as merely a disease of the alimentary tract can no longer be maintained; as it is we must look on it as a modified form of septicemia in which, however, there is a definite and local primary disease whence dissemination of the organism takes place.

Influence of Temperature of Liquid Air on Bacteria. Allan Macfadyen.—This paper, which was read before the Royal Society, gives the results of experiments on the effects of liquid air on various bacteria, those of typhoid, diphtheria, cholera, etc. The experiments show that bacteria may be cooled down to —190 C. for a period of twenty hours without losing any of their vital powers. Further experiments are being carried on with these and other micro-organisms with liquid air for longer periods, and also with liquid hydrogen.

The Therapist (London), March 15.

Use of Local Hot Baths in Poisoned Wounds. David Fraser.—The writer calls attention to a treatment of septic wounds with which he has had remarkable success. It consists in keeping the limb or wound in hot water, as hot as can be borne, for at least a couple of hours, three times a day, and poulticing in the meantime with linseed meal. He thinks this method thoroughly carried out and patiently persevered in will cut short the atack unless the inflammation has already passed the axillary or inguinal glands. He has never seen one of the virulent cases of blood-poisoning with serious constitutional effects since first trying this treatment.

Australasian Medical Gazette (Sydney, N. S. W.), February 20.

A Palmar Reflex. George E. Rennie.—Rennie describes a reflex due to a traction of the palmaris brevis when pressure is made on the pisiform bone and on the ulnar nerve above the wrist. He thinks that this must be a true reflex, and since the nerve-supply of the palmaris is derived from the eighth cervical and first dorsal nerve roots it may possibly be of service in localizing lesions in the cord.

Presse Medicale (Paris), March 14.

Reduction of Size of Shoulders in Difficult Delivery. E. Bonnaire.—Cleidotomy or supra-acromiotomy has never been practiced on a live child, but if the head has been delivered and the shoulders are inextricably caught, instead of feticidal tractions a resort to cleidotomy will enable the child to be born alive, with no injury except the incision of the skin, aponeurosis and bone. No vessels are affected and even the subclavicular muscle is intact. Bonnaire uses ordinary long scissors. After the perineum is pulled back as much as possible, the finger is inserted and the clavicle sought. It feels like a match lost in the soft parts if it is transverse or unless repeated maneuvers have pulled it out lengthwise. In the latter case cleidotomy is impossible and supra-acromiotomy is necessary. If the clavicle can be reached the scissors are inserted between two guiding fingers to the clavicle. The first stroke of the scissors slips usually on the rounded surface of the bone and merely cuts the soft parts. The second severs the periosteum and the handles of the scissors are then grasped in the palm and the bone cut. The other shoulder is then cut in the same way. By supra-acromiotomy Bonnaire means a partial embryotomy, which consists in severing wide the skin and muscles surmounting the shoulder, in such a way as to liberate the scapulo-clavicular attachment of the arm. This allows the bis-acromial diameter to pivot and pass the uterine or pelvic diaphragm which is holding the shoulders.

Semaine Medicale (Paris), March 14.

Traumatic Hernia. F. De Quervain.—The writer uses the expression *hernie de force*, and studies the subject from the accident insurance point of view. It is evidently unjust to make manufacturers or insurance companies responsible for a pathologic tendency on the part of a workman, a predisposition to hernia. Persons with this tendency should select an occupation less arduous than others. And in deciding the indemnity such a predisposition, if proved, should reduce the claim. The supreme authority in accident insurance in Germany, the *Reichsversicherungsamt*, recognizes the right of a subject with a traumatic hernia to an indemnity and does not consider it reduced by a predisposition. In Austria the same rule prevails, and also in Switzerland, but in the latter a predisposition reduces the amount of the indemnity. Some private companies refuse to allow an indemnity for traumatic hernia, while others grant it. It is very important, in examining a subject, to bear in mind that there must have been a more or less considerable effort or traumatism to have produced the hernia, also that true traumatic hernia is almost invariably accompanied by sudden, severe pain, and frequently by strangulation. The physician should also seek for indications of preceding predisposition and also of an old hernia. If the inguinal canal is large and especially if it has lost its oblique direction, a traumatic origin of the hernia is less probable. The size is also significant. Except in the rarest cases, a traumatic hernia is never larger than a lemon. The fact of irreducibility also speaks against a fresh traumatic origin, as it indicates old adhesions. Evidences that a pad has been worn should also be sought. A double traumatic hernia is almost unknown. The coexistence of ectopic testes also suggests a non-traumatic origin, as this is frequently accompanied not only by a predisposition but by a pronounced hernia. Other circumstances in favor of a gradual development of the hernia are advanced age of the subject, and the knowledge that he has been incapable of hard work in spite of a robust appearance. A predisposition to hernia is generally accompanied by flabby abdominal walls, with trilobed abdomen; sometimes there is a hernia point on the other side. A thin hernial sac without adhesions with the elements of the cord, nor thickening of the latter, is a point in favor of fresh traumatic hernia. The indemnity accorded in Germany is from 10 to 50 per cent. of the working capacity. In Switzerland a single sum is paid, ranging from 500 to 2000 francs. The article concludes with the expression of the writer's personal opinion that companies, etc., should accord the expenses of radical treatment as the minimum of indemnity in any case of traumatic hernia.

Centralblatt f. Chirurgie (Leipsic), March 24.

Operative Treatment of Neuralgia of the Trigeminus. A B. Tichonowitch.—The conclusions of this prize thesis are that resection of the Gasserian ganglion, according to Quenu and Sebileau, is much the best operation. The advantages are the lesser extent of resection of bone required, the harmless route to the foramen ovale [illegible] the bo[illegible] *periosteum*, the absence of large ves[illegible] ld. [illegible] recognition of the tissues, the favor[illegible] fo[illegible] plication of a ligature to the middle [illegible] can thus be well protected, the comparatively small size of the opening in the bone necessary for the exposure of the ganglion, and lastly, the protection of the defect in the bone by the numerous organs located behind the provisionally resected arcus zygomaticus, and the certainty of the consolidation of the arcus by the broad surface of the anterior incision of the resection. The Quenu and Sebileau method combines the advantages of the "temporal," and also of the "basal" method without their chief faults, and is therefore the method of election for resection of the Gasserian ganglion.

Deutsche Medicinische Wochenschrift (Leipsic), March 22.

Revision of Pharmacopeia Germanica. E. Harnack.—The new drugs that have been added to the German pharmacopeia are already announced, twenty-five in all. The revising committee endeavored to avoid patented medicines and to rebaptize those already in the work. The list is: adeps lanæ anhydricus; adeps lanæ cum aqua (lanolin); ether pro narcosi; alcohol absolutus; arecolinum hydrobromicum; baryum chloratum; bismutum subgallicum; bromoformium; coffeino-natrium salicylicum; gelatina alba; hydrargyrum salicylicum; hydrastininum hydrochloricum; mel; methylsulfonalum (trional); oleum camphoratum forte; oleum chloroformii; oleum santali; pilulæ fer. carb. Blaudii; pyrazolonum phenyldimethylicum salicylicum (salipyrin); semen erucæ; serum antidiphtheriticum; tela depurata; tuberculinum Kochii; unguentum adipis lanæ; vinum chinæ. None of the new preparations of silver, of tannin, organic iodin, organic iron, of creosote, methylene blue, etc., are included in the list. Salol is rebaptized: phenylum salicylicum, and antipyrin, pyrazolonum phenyldimethylicum. Among the substances dropped from the pharmacopeia we note auro-natrium chloratum, the only preparation of gold; keratinum as a coating for pills (salol is recommended in its place), and thallinum sulfuricum.

Muenchener Medicinische Wochenschrift, March 13 and 20.

Distortion of Lower Joint of Foot. H. Krapf.—The writer of this communication has had occasion to observe a number of cases in which the subjects had wrenched or sprained a foot some time before. As they recovered they found they could walk perfectly well on level ground, but there was a sensation of uncertainty on an uneven surface, and if they stepped on a pebble or anything of the kind, the pain was so intense that sometimes they fell. On examination, the talocalcaneal joint was found enlarged, or a small prominence in the talus region, or a displacement of the anterior talus angle; pronation and supination of the foot were almost if not entirely impossible, while dorsal and volar flexion and gait were normal. The cause is either a fracture or distortion of the lower joint of the foot and usually leads to ankylosis of the joint. Rest, massage and a special shoe will cure recent cases and improve all. Krapf urges investigation of the lateral movements in all cases of injury to the foot, and observes that the effects of distortion of the lower joint, while not impairing the working capacity in most occupations, proves a serious detriment in others.

Large Splinter in Eye Not Discovered for Year and a Half. Peters.—A child of 8 fell and complained of pain in the eye, and for several days there were marked cerebral symptoms, but the physician found no foreign body in the eye. It suppurated and became blind. A year and a half later, as suppuration still continued, the child was taken to Peters, who extracted a splinter of wood over 3 cm. in length and 3 mm. wide. He believes that the sight might possibly have been saved if the splinter had been removed at once, and asks what would have been the results if the parents had sued the first physician for his neglect to find a splinter of such size in their child's eye.

Trial of Local Alcohol Therapeutics in Gynecology. L. Seitz.—A series of cautious and thorough tests were made of local alcohol treatment in various gynecologic troubles, in the hope that the arterial hyperemia induced might assist Nature in the defensive reaction of the organism. Applied to the vagina, the effect was only beneficial in one case—chronic metritis and endometritis fungosa—while the erosions and shedding of the epithelium induced offer a favorable soil for infection of all kinds. A case of tuberculosis of the peritoneum and adnexa was also favorably affected by alcohol compresses applied to the abdomen after laparotomy to evacuate ascites, and this success warrants further attempts in this line. In other respects local alcohol treatment proved a failure in gynecologic affections.

Treatment of Lupus and Other Skin Diseases with the Roentgen Ray. Albers-Schoenburg and Hahn.—The long experience of the writers at their Roentgen institute at Hamburg enables them to affirm that all skin diseases without exception are favorably influenced by the Roentgen ray, while, with proper precautions, there are no inconveniences from its use. It invariably cures the eczema accompanying lupus, and the indurations, and is peculiarly adapted for the treatment of flat surfaces and extensive areas. Recurrences are not prevented by this treatment any more than with other methods, and it does not exclude other treatment; in fact, is best applied in combination with other methods.

Simple Method of Determining the Bound Hydrochloric Acid in Gastric Juice. O. Cohnheim.—The simplicity of this method adapts it to general clinical use. The contents of the stomach is filtered and the total acidity and proportion of free hydrochloric acid computed as usual, for each 10 cm. A similar amount—10 cm.—is then precipitated with calcium phospho-tungstate prepared by neutralizing a 4 per cent. aqueous solution of commercial phospho-tungstate with calcium carbonate at boiling point; 30 c.c. are sufficient. After waiting two to five minutes, filter and determine the acidity with resol acid or phenolphthalein. The difference between the amount thus obtained and the total acidity is the amount of bound acid. In the absence of free hydrochloric acid the deficit is determined and a certain amount is added, 30 to 40 c.c. more than the actual deficit, and this amount is subtracted from the amount of bound acid established. In the tabulated tests the total acidity varied from 27 to 95, with minus 78 free acid in the first case and plus 70 in the second. The amount of bound acid was 25 in each case. The total hydrochloric acid in the first was minus 53 and the second plus 95.

Gazzetta degli Ospedate (Milan), February 25.

Subconjunctival Injections of Sublimate in Ulcers of Cornea. F. Amata.—An experience with forty-two cases of severe ulcers of the cornea has convinced Amata that this method of treatment far surpasses all others in simplicity and efficacy. A single injection was sufficient in all but one case. He uses Sgrosso's formula—corrosive sublimate, 5 cg.; sodium chlorid, 10 cg.; aq. dest., 100 gm.—after cocain.

Mercurial Neuritis. P. C. Modinos.—A young man had rheumatic pains appearing three years after he had contracted syphilis and been effectively treated at the time. He returned to his mercury to dispel the pains, but found that they increased until walking was impossible. Modinos ascribed them to a mercurial neuritis and appropriate antimercurial treatment soon cured them. He also reports a similar case occurring eighteen years after the first syphilitic infection. He suggests that possibly this mercurial neuritis may occur comparatively frequently and be ascribed to other causes.

New Indications for Injections of Gelatin, and New Formula. V. Pensuti.—The writer has been using injections of gelatin extensively in all hemorrhagic infections, and recommends them as harmless and marvellously effective in chronic cases that have resisted all other treatments. He describes one observation in detail, a young woman very much debilitated from several weeks of bloody dysentery, forty-five passages a day, all blood-stained. The blood ceased to appear in twenty-four hours after the first injection of .90 gelatin, and the discharges were reduced to normal number in three days. No other treatment was instituted except the daily injection of gelatin. Pensuti adds a few centigrams of phenic acid to each c.c. of the 30 per cent. gelatin; filters in steam and injects 3 c.c. once to three times a day in very severe cases. By this means he avoids the large amounts necessary when a more diluted fluid is used.

Alum in Lead Poisoning. G. Campanella.—In the failure of all other remedies Campanella administered alum, which at once conquered the rebellious constipation and cured the patient. He explains the mechanism as due to the formation of a soluble alkaline sulphid by the combination of the alum with the albuminoids and free alkaline substances in the intestines, with the formation of sulphuric acid. These stimulated peristalsis and irritated the mucosa, producing hyperemia, which counteracted the anemia caused by the lead.

Experiments in Prophylaxis of Malaria on the Rome-Tivoli R. R. A. Baldi.—The houses of the railroad agents were rendered mosquito-proof, and netting masks, veils and gloves were provided the agents who had to be in the open air at night. Insecticide powders were burned in the rooms. The stretch of the road on which these precautions were taken was in a notoriously malarial region, and a corresponding stretch was left unprotected to serve as control. In the latter every person connected with the road and every member of their families was infected with malaria, terminating in cachexia in some. In the protected stretch all escaped except the station agents who had to be exposed to the night air. These results are considered very encouraging, as the scientists had to contend with ignorance and negligence on the part of the railroad employees, although the officers of the road afforded them every facility and appropriated a thousand lire to pay expenses.

Success of Nitrate of Silver in Acute Lobar Pneumonia. E. Caccianiga.—The Journal called attention to Caccianiga's treatment of pneumonia with nitrate of silver, when he first announced it in 1898. He has now an experience of 60 cases with 56 prompt recoveries, 1 slow one and 3 deaths. The drug seems to have a specific action on the pneumococcus, and restores the temperature to normal in twenty-four to forty-eight hours; the resolution of the pneumonic foci commences two to a few days after defervescence, and a sense of relief and general improvement accompanies or precedes the latter. He gives adults 25 to 30 cg. of nitrate of silver in pills of 2 to 5 cg. each, or in a mucilaginous vehicle, one pill or one tablespoon of the solution every hour. He repeats this prescription every day, increasing it if necessary until complete apyrexia and then continuing half the dose for two or three more days. In very severe cases he makes subcutaneous injections, and considers protargol the best preparation of silver for this purpose, injecting 15 cg. at a time in a 50 per cent. solution. He appeals to the profession at large to test this treatment of pneumonia and report results, confident of its efficacy.

Experimental Research in Regard to Toxicity of Serums, Exudates, Etc., in the Various Morbid Conditions and Under the Influence of Medicines. F. Badano.—The heart of the tortoise, Emys Europea, was used for the tests, with Williams' apparatus to maintain artificial circulation. The chief results of the extensive research show that pleuritic effusions are very slightly toxic, a little more if from a febrile patient and still more if purulent, but peritoneal effusions showed no toxic action. Blood from patients with pneumonia arrested but did not kill the heart, whose functions could be restored by sending salt solution through it, but blood from subjects with pneumonia, who had been taking digitalis, was much less toxic. There did not seem to be any proportion between the amount of digitalis and its modifying action, and it did not prevent the arrest of the function at last. Blood from patients with erysipelas killed one heart; another was revived by salt solution after it had been arrested. Streptococcic toxin had a slightly toxic effect. Blood from subjects with severe malarial infection killed the hearts sooner or later in every case, and this effect was only retarded by half an hour when the subjects had been taking quinin. Blood from typhoid subjects was also fatal to the heart, and seemed most toxic during the second week of the disease. Phenacetin and antipyrin had no effect in diminishing the toxicity of the blood. Blood from subjects with pyemia soon exhausted the heart. Tuberculous blood had no special toxic action on the heart, but the blood in severe icterus and with cirrhosis of the liver showed marked toxicity, even when subjects felt comparatively well.

St. Petersburger Medicinische Wochenschrift, March 10 and 17.

Erythema Exsudativum Multiforme. H. Lau.—G. Lewin, who has treated over eighty thousand syphilitic patients, always urges his students to wait for the eruption before instituting specific treatment, as it frequently occurs that circumstances arise which render it impossible later to determine whether a subject has had syphilis or not. Lau relates a convincing instance: a man, 33 years of age, noticed five small sores on the prepuce, diagnosed by a physician as soft chancres and treated with specific medication. They soon healed, leaving indurations, and a year later a papulous eruption appeared, for which he took a regular course of treatment. This eruption recurred nine times in the course of six years, during which time the various courses of specific treatment had introduced about a pound of mercury into his system. At the end of this time Lau was consulted and demonstrated that the eruption was merely a cyclic erythema exsudativum multiforme, and if the subject had ever had syphilis at all, it had been cured long years before.

Septic Maculo-Papulous-Erythema Consecutive to Follicular Tonsillitis. K. Dehio.—The acute follicular tonsillitis had evidently been the starting-point of a severe septic intoxication, with high fever, involvement of the central nervous system, digestive disturbances and a maculo-papulous eruption over nearly the entire body. A second observation is related in which the eruption recurred three times after an interval of two years. Dehio considers it probable that the specific, probably septic toxins causing the eruption encountered in these cases a certain predisposition or idiosyncrasy.

Societies.

COMING MEETINGS.

American Medical Association, Atlantic City, N. J., June 5-8.
Medical Association of Alabama, Montgomery, April 17.
South Carolina Medical Association, Charleston, April 18.
Louisiana State Medical Association, New Orleans, April 19-21.
Medical Association of Georgia, Atlanta, April 18.
Medical and Chirurgical Faculty of Maryland, Baltimore, April 24.
Texas Medical Association, Waco, April 24.
American Proctologic Society, Washington, D. C., May 2 and 3.
Illinois State Medical Society, Springfield, May 15-17.
Association of Military Surgeons of the United States, New York City, May 31 to June 2.
American Medico-Psychological Association, Richmond, Va., May 1.
American Association of Anatomists, Washington, D. C., May 1-3.
American Association of Genito-Urinary Surgeons, Washington, D. C., May 1-3.
American Laryngological Association, Washington, D. C., May 1-3.
American Surgical Association, Washington, D. C., May 1-3.
American Association of Physicians, Washington, D. C., May 1-3.
American Climatological Association, Washington, D. C., May 1-3.
American Dermatological Association, Washington, D. C., May 1-3.
American Orthopedic Association, Washington, D. C., May 1-3.
Arizona Medical Association, Prescott, May 2-3.
American Gynecological Association, Washington, D. C., May 4-6.
Medical Society of State of North Carolina, Torboro, May 5.
American Pediatric Association, Washington, D. C., May 7-9.
Ohio State Pediatric Society, Columbus, May 8.
Nebraska State Medical Society, Omaha, May 8-10.
Washington State Medical Society, Spokane, May 8-9.
Oklahoma Territory Medical Society, Oklahoma City, May 9.
Ohio State Medical Society, Columbus, May 9-11.
Kentucky State Medical Society, Georgetown, May 9-11.
Medical Association of State of Missouri, Mexico, May 15-17.
Medical Association of Montana, Butte, May 16.
Iowa State Medical Society, Des Moines, May 16-18.
Arkansas Medical Society, Jonesboro, May 14-16.
Connecticut State Medical Society, New Haven, May 23-24.
North Dakota State Medical Society, Grand May 23-24.

Indiana State Medical Society, Anderson, May 24-25.

New Hampshire Medical Society, Concord, May 31 and June 1.

New York Academy of Medicine.

Section on Medicine, March 20, 1900.

TREATMENT OF RHEUMATISM.

This was the general subject for the evening's discussion.

TREATMENT OF RHEUMATISM AT THE NEW YORK CITY HOSPITAL.

Dr. Hughes Dayton, in his paper on this subject, said that the chief reliance is placed on sodium salicylate, given in doses of 10 or 15 grains every three hours until the pain is relieved. Where it seems advisable to push this drug in spite of the presence of such toxic symptoms as tinnitus, sodium bromid is added. In a few instances the salicylate has been administered per rectum, in doses of 30 grains dissolved in two ounces, but ordinarily, when the stomach proves intolerant of this drug, salol, 5 grains every three hours, is given instead. For local use methyl salicylate is useful. It is absorbed into the system through the unbroken skin, as is readily demonstrated by testing the urine half an hour after applying it to the affected part. The same local application is used in the cases of chronic rheumatism in this hospital, but internally alkalies and iodid are given. If there is much infiltration about the affected joints, the hot-air bath is employed, and if used for a considerable time, it reduces the swelling and increases the mobility of the joints. For muscular rheumatism salol and phenacetin, each 5 grains, are given every three hours, and methyl salicylate or belladonna plaster is used locally. Perhaps the most reliable local application is the thermo-cautery.

TREATMENT OF RHEUMATISM AT THE MOUNT SINAI HOSPITAL.

Dr. L. A. S. Bodine read a paper on this topic. The method in vogue is to first thoroughly clear out the intestinal tract by a dose of calomel, followed by a saline cathartic, and then to administer the salicylate of soda in doses of 10 or 15 grains at intervals of three hours. If the salicylate causes gastric disturbance, tinnitus aurium or eruptions, the oil of winter-green, or the citrate or acetate of potassium is substituted. Morphin is rarely given to relieve the pain, the main reliance in this disease being on such sedatives as phenacetin, acetanilid and antipyrin. Trional, either alone or combined with bromid of sodium, is the favorite hypnotic. Rest in bed and a fluid diet are insisted on during the acute stage, but after the temperature has remained at the normal for three or four days the patient is allowed to get up, and his dietary enlarged to embrace eggs, bread, potato, and fresh vegetables, but meat is still excluded. During convalescence, iron, strychnin, and quinin are administered. Locally, methyl salicylate is used, also tincture of iodin, and ice-bags, and attention is paid to the position of the limb. If these measures do not suffice to check the effusion, the joint is aspirated to determine the character of its contents. Hot-air baths for the affected parts, at a temperature of 200 to 400 F., have been used to some extent.

DIFFERENTIAL DIAGNOSIS OF CHRONIC RHEUMATISM.

Dr. J. J. Walsh, in commenting on the differential diagnosis, divided the cases of rheumatism into four classes: 1. Subacute rheumatism, the attacks occurring rather frequently yet yielding readily to treatment. 2. Cases presenting the symptoms of articular rheumatism, and occurring especially in children, under the name of "growing pains," or alternating with chorea, tonsillitis, and certain skin affections. 3. True chronic rheumatism, where the joint is sometimes permanently injured and deformed. 4. A very large and motley array of cases often diagnosed as rheumatism, chiefly because of the presence of pain somewhat resembing that of true rheumatism. It is true that this pain is relieved by the remedies often employed in rheumatism, but as these drugs are usually the coal-products, which relieve pain in the peripheral nerves no matter what its nature or origin, this is no argument in favor of rheumatism. Incidentally the speaker said that anybody who ever experienced the soothing effect of the salicylates as a surgical dressing, or the great relief afforded in toothache arising from an abscess at the root could readily understand the relief of pain from the administration of such remedies. Another common mistake in diagnosis is to confound the pain of flat or weak foot with rheumatism. The error is made apparent by the relief afforded by simply placing a small pad of felt under the inner border of the foot to properly support the arch. A similar condition of pain in the foot was noted in some dentists; it had its origin in supporting the weight of the body for long periods of time on one foot while the other was engaged in running the dental engine. These occupation neuroses should be borne in mind, and the possibility of their presence in the given case carefully weighed before making the diagnosis of chronic rheumatism.

HOT-AIR TREATMENT OF CHRONIC RHEUMATISM.

Dr. Thomas E. Satterthwaite said, on this subject, that in the modern apparatus used for this purpose the essential idea is to keep the body dry while the air about it is superheated. To this end, the limb is wrapped in two or three layers of blanketing or Turkish toweling, to prevent the scalding which will result if this provision is not made for the immediate absorption of the perspiration. The inner surface of the cylinder is lined with asbestos to prevent contact of the skin with the heated metal. If the toweling is not applied snugly about the limb some perspiration may lodge between it and the skin and so cause blistering. He could not endorse the extravagant claims made for this apparatus by some observers, but it could certainly be said to be an adjuvant to other methods. Dr. George L. Kessler, of Brooklyn, who had had an extensive experience with this method, felt warranted in drawing the following conclusions: 1. The treatment causes contraction and then dilatation of the superficial blood-vessels. 2. The pulse becomes stronger but beats more rapidly. 3. The bodily temperature is raised from one to six degrees. 4. This is associated with profuse and acid perspiration. 5. The respirations are increased in frequency. 6. If the treatment is too prolonged, nerve exhaustion will be experienced.

Dr. H. W. Gibney detailed a number of cases in which he had used this portable hot-air apparatus with more or less success.

USE OF ELECTRICITY IN CHRONIC RHEUMATISM.

Dr. William James Morton, in his paper on this subject, considered the effect of the high potential high frequency current in general, and that of his so-called "electric wave current" in particular. When using this wave current, he said, the patient practically becomes one coating of a Leyden jar, and is therefore subjected to a very powerful but not unpleasant condenser current. By means of dry, uncovered electrodes of some pliable material, such as block tin, this current can be readily applied to the joints or various other regions of the body—indeed, by making use of the metallic military cloth, used in decorating soldiers' uniforms, one can readily and quickly cut out rude garments, and apply the current generally as well as locally. The application should be kept up for from fifteen to thirty minutes, but if the patient feels exhausted afterward it is an indication that the treatment has been too prolonged. In subacute and chronic rheumatism he first advises a general treatment as just described, followed by a local one with sparks. This electric method powerfully influences all the nutritional processes, and is greatly superior to the hot-air treatment or to any other method he has tried. It is particularly useful in cases of gout, and where there is only a watery edema, the relief at once afforded by the application is apt to be permanent. Skiagraphs were exhibited to show the good results obtained from this treatment in cases of rheumatoid arthritis, and the assertion was made that the progress of rheumatoid arthritis can be arrested in any stage, the result being secured more slowly in proportion as the disease is more advanced before coming under treatment.

Dr. William M. Leszynsky said that while he had had even brilliant results from the use of the static electric machine in the treatment of muscular rheumatism, he had not achieved such signal success when he had employed this method in cases of chronic articular rheumatism. One reason the electric treatment is commented on adversely by so many physicians is that they have not made sufficiently long applications of the current. One method of the treatment which he has found very useful is the wet pack. By the use of this at night, and massage and oil of wintergreen by day, joints stiffened by rheumatism can be improved in a comparatively short time.

Dr. Morris Manges spoke against the prevailing tendency in some quarters, to believe that we are in possession of any specific treatment for rheumatism, and added that to treat this disease solely by the use of the salicylates is a serious error. Patients so treated will have many complications, and recover slowly. The urine should be carefully watched to determine the quantity of alkali needed. The urine should be made alkaline, and kept so. The best results will be secured by combining a pronounced alkaline treatment with a moderate salicylate one, and by giving due attention to the heart and to immobilization of the affected joints. He knew of one or two instances in which the chilling of the parts after their removal from the hot-air apparatus led to a subacute case again becoming acute. The hot-air treatment is also not wholly free from other dangers, such as fire and burns.

Dr. Mary Putnam Jacobi said that she had had an opportunity of witnessing the treatment of rheumatoid arthritis by means of the electric wave current, and had been favorably impressed with the method.

Dr. G. L. Kessler said that he had treated 350 cases of rheumatism in the Sprague hot-air apparatus, and had found it capable of increasing the mobility and reducing the deformity in most cases. In those in whom the joints have become suddenly stiff he has used lactic acid with gratifying success, though it must be confessed empirically. This medication, together with the hot-air treatment, should be kept up for several months. The temperature of this apparatus can not be safely allowed to run up above 350 F., as indicated by the thermometer in the top of the apparatus. He is opposed to the splinting of rheumatic joints, believing that this simply encourages the stiffening of these parts.

Section on Laryngology and Rhinology, March 28, 1900.

CHRONIC ATROPHIC RHINITIS.

Dr. Francke H. Bosworth opened the special subject for discussion by a consideration of the etiology. He says that atrophic rhinitis is only a development from the purulent rhinitis of childhood, and that there is not a single case on record which justifies the assertion that atrophic rhinitis ever follows hypertrophy. Children are well known to be susceptible to catarrhal inflammation, and the result of such a process is, at first, increased secretion. The process gradually extends into the glandular structures, and the secretion becomes inspissated, and finally dried into crusts which by pressure, interfere with the vascular supply of the mucous membrane; and as they are not easily expelled, they decompose, and cause the stench so characteristic of this class of cases.

Dr. Jonathan Wright reviewed the more recent contributions to the etiology and pathology, particularly certain anthropometric studies, which point especially to two factors as prominent in the etiology of atrophic rhinitis, viz.: 1, epithelial metamorphosis of the nasal mucous membrane; and 2, the presence of wide nasal fossæ. Some authorities are of the opinion that the short septum has a direct bearing on the occurrence of ozena. Gerber maintains that the flat nose type is more common in women, and asserts that 71 per cent. of the cases of atrophic rhinitis occur in females.

Dr. Clarence C. Rice discussed " the importance of distinguishing functional collapse of the nasal tissues from atrophic rhinitis," and said that in the simple dry rhinitis of the anemic the nasal mucous membrane is smooth and presents all shades of pallor, while in atrophic rhinitis the color of the membrane varies from a red to a dirty gray. Perhaps the most important distinguishing feature is the amount of secretion. In cases of functional collapse, there is comparatively little; in atrophic rhinitis there is usually an abundant accumulation of pus and crusts. Again, in atrophic rhinitis the degree of dryness varies greatly from time to time, while in functional collapse, although the dryness is never so great as in atrophic rhinitis, the mucous membrane is never moist. Hyperplasia of the middle turbinate is more marked in atrophic rhinitis than in functional collapse.

Dr. Thomas R. French, in speaking of the treatment, said that while oily sprays give temporary relief, their use is inadvisable as they tend to aggravate the disease by still further interfering with the glandular action. For local treatment, he prefers the spray, both before and after an application of hydrogen peroxid. Most of these patients require daily cool baths, life in the open air and other general tonic measures.

Dr. D. Bryson Delavan, in discussing "the mechanical and electrical treatment," deprecated any extensive removal of the mucous membrane in most cases. Gottstein's treatment by means of tampons is chiefly indicated in patients in whom there are localized areas of tissue partly hypertrophic and partly atrophic. Either the galvanic or the faradic current, frequently interrupted, could be used in the treatment of atrophic rhinitis, but this method was both tedious and expensive.

Dr. Charles H. Knight discussed "the treatment by drugs." For local cleansing he knows of nothing superior to a normal saline solution made by dissolving one teaspoonful of common table salt in a pint of water. For use in spray apparatus it is superfluous to previously warm the solutions, as it has been conclusively demonstrated that the temperature of the solution falls materially almost immediately on leaving the nozzle of the apparatus. There can be no doubt concerning the beneficial action of menthol when used locally. It improves the character of the secretions, and reduces their quantity. To begin with the strength should not exceed five grains of menthol to the ounce of fluid albolene, but after the patient has become accustomed to this, the strength can be increased with advantage. Formaldehyde would seem theoretically to be an ideal medicament in atrophic rhinitis when used in an atomizer in the strength of 1 in 5000. However, some persons will not allow it to be used for any length of time because of the pain attendant on the application. A 5 per cent. solution of ichthyol in petroleum is exceedingly useful, but its unpleasant odor is a drawback.

Dr. Coyle, of Hornellsville, remarked that he had had greater success in the treatment of this affection from the use of gauze tampons in the nose than from any other method.

Dr. Wolf Freudenthal expressed the opinion, based on considerable observation and experimentation, that much of the atrophic rhinitis now so prevalent is to be explained by the dryness of the air in most living rooms. For comfort and health there should be 60 per cent. of relative humidity, and certainly not less than 40 per cent., yet he has often known it to be as low as 30 per cent., and sometimes even as low as 15 per cent. This compels the mucous membrane of the upper air-passages to do an excessive amount of work, and quickly leads to diseased conditions.

Dr. Beaman Douglas said that a most useful local application in atrophic rhinitis is a 50 per cent. solution of ichthyol, as this substance, when applied to the mucous membrane, causes a serous exudation and an absorption of leucocytic infiltration. Another method which gives promise of usefulness is the carbonic acid gas treatment advocated by Dr. Achilles Rose.

Dr. Wendell C. Phillips expressed the opinion that a 25 or 50 per cent. solution of ichthyol makes the best application, but insisted that to attain the best results the patient should be carefully instructed in the best method of cleansing the vault of the pharynx as well as the nasal passages. This part is very unpleasant, and it is difficult to get some persons to do it at all, yet it is a measure which should not be neglected.

Chicago Academy of Medicine.

March 9, 1900.

CASE OF FUNCTIONAL TREMOR OF THE ARM.

Dr. Harold N. Moyer reported this condition in a man 47 years of age. This is the second attack of the tremor noted in his right arm. The first began about ten years ago. His health previous to that time was always good and there was apparently no cause for the attack. As he was going home from work, his arm suddenly began to shake, but less than it does now. He confined himself to the house for a month and then returned to his work somewhat improved. At the end of the year the tremor had practically ceased, excepting for certain "reminders of it," he says. He was able to go on with his work, using his hand in all the ordinary occupations as well as before, but now and then there was a suggestion of the tremor, disappearing as suddenly as it came. Six weeks ago, while he was eating his dinner, the arm suddenly began to shake and has been shaking ever since. He has perfect coordination; the reflexes are intact; the eye-grounds and pupils are normal; there are no sensory disturbances. The muscles in this arm are well-developed and in fact, larger than those in the other arm, presumably due to the very great exercise which these muscles have. When stripped, he presents no tremor of any other member or muscle excepting those of the right arm and forearm, but Dr. Moyer was not quite certain that there is no tremor in the shoulder muscle. There is some jerking in the pectoral muscle, none in the head muscles nor in those of the other side. The jerking of the arm jerks his whole body. The tremor disappears during sleep.

The case is a very interesting one from the standpoint of diagnosis. Dr. Moyer does not believe it is paralysis agitans nor a case of sclerosis, and would hardly class it with chorea, yet there is perhaps more suggestion of the latter than any other kind of tremor. He can use his arm to some extent. The vibrations are about 280 per minute.

Dr. Hugh T. Patrick—I would like to ask whether the patient has been intoxicated recently?

Dr. Moyer—He has not.

Dr. Patrick—I venture to predict that if he got drunk the tremor would stop. It would probably also disappear in a fit of anger. I had a similar case in which the shaking stopped and the eyes were closed.

Dr. J. G. Kiernan—I have had, some time ago, a case somewhat similar to this with the exception that tremor involved not merely the arm, but the speech center and the leg center as well. It was a case in a 15-year-old negro, and began with a peculiar stammer. The more attention was directed to the symptoms the more violent they became. While the age in this case differs—the age also would lead to the inference that there was an organic rather than a biochemical lesion—still the results obtained by Dr. Patrick and also the use of conium and camphor monobromate, which seems to exercise a beneficial effect, would make these cases somewhat alike. The boy has certainly gotten rid of the tremor, and speech disturbance, except under some very decided excitement.

In dealing with these cases, not merely the ordinary biochemical explanation, but the hysteric or neurasthenic as well, should be taken into account. In the case of the young negro the neurasthenic element alone could be excluded. In his case stammering was the last symptom to disappear.

Conium is undoubtedly a motor sedative. I have seen a similar tremor occurring in a 70-year-old woman, who was sent to me from Texas ten years ago. She had been given opium in enormous doses, and became an opium eater at the age of 65. That tremor turned out to be precisely the same as in the case of the boy. It disappeared completely under the rest treatment of opium disease, and the use of conium. I might add that two years afterward it recurred under "Christian Science." As far as I can learn from what Dr. Moyer has said anent his case, the condition is rather a biochemical one; to me it seems that it would be advisable to try the treatment indicated by Dr. Patrick, and also try conium in large doses.

Dr. W. X. Sudduth—Several have suggested that I undertake to control this tremor, the patient being present. There is no doubt that it can be controlled by suggestion, as it is an involuntary action. The man, however, is not in a frame of mind to be made a clinic of at the present time, and that makes handling of the case rather difficult. Sedative drugs would have a beneficial effect in this case as it is the man's good right arm, the one with which he makes his living. The tremor has developed a suggestion in his mind so firmly that it requires a good countersuggestion to relieve it. The treatment of rest cure, suggested by Dr. Kiernan, is a good one, but it must be accompanied by diversion in order to take the patient's mind from his affliction. Any line of treatment which will divert his attention from the tremor will cure the case.

Dr. Hugh T. Patrick—I would like to ask Dr. Moyer whether he inquired closely into the emotional condition of the patient prior to his first attack.

Dr. Moyer—So far as I can learn it was normal. He distinctly remembers the onset of the trouble ten years ago; the shaking began suddenly while he was on his way home from work. The second attack came on equally as suddenly while he was at the dinner table.

Dr. Patrick—There is nearly always some emotional disturbance in relation with the first shock. It may not be immediately preceding the attack but relatively near it. I remember two cases very much like this one, one in a boy in whom the shaking stopped immediately when the eyes were closed, the other a case of amputation just above the ankle. The latter had in the stump, exactly the same tremor or jerking which the patient has, but it did not persist constantly, and was relieved by placing the limb in a certain position.

This patient has probably discovered, consciously or unconsciously, some way in which he can partially control this tremor. I have watched him closely and it seems to me that sometimes the tremor subsided almost entirely. When he removed his overcoat and in so doing put his arm behind his back the tremor subsided entirely, and when the arm was drawn from the sleeve it began again. I think there can be no question as to this being other than a purely functional affair. Iwould not like to call it a biochemical lesion, as Dr. Kiernan suggests, because I do not know what that means. Brissaud called another set of muscular spasms "mental torticollis," indicating not only its functional but furthermore its psychic nature. The name was well chosen. I believe this case to be similar in origin, and I can see no reason why it should not be perfectly curable.

Dr. William J. Butler—We will all agree on the diagnosis which Dr. Moyer will make, namely, that the condition is functional, i. e., a tremor neurosis. I wish to call attention to a number of cases of tremor neurosis reported by Kraft-Ebing, in 1898, in the *Wiener Klin. Woch.*, and to which this case seems analogous. As a result of his observations he noted occurrence most frequently in young girls, though in one case, at the age of 41 years. The patients, were, as a rule, of a low order of intelligence and very emotional. The tremor was usually ushered in by a psychic or mechanical trauma. It frequently started in an arm or arm and leg, and extended later to involve the other extremities and head, producing a clinical picture simulating paralysis agitans. The tremor was always increased by intentional movements or excitement, and in one case could be increased or diminished by suggestion. All the patients lacked bodily stigmata of hysteria, except in one in whom painful pressure points were observed on the back.

The various methods of treatment resorted to—hypnotism, magnetism, electricity, sedation, etc.—proved valueless during the time under observation, in all cases, except that of a young girl whose tremor came on only during the recumbent or sitting position and disappeared on standing erect. She presented painful pressure points on the back, and pressure on them resulted in diminution of the intensity of the tremor; vigorous faradization of these areas resulted in disappearance of tremor.

Dr. H. N. Moyer (closing the discussion)—I have refrained from making a diagnosis and I think my confrères have been equally wise. I had expected to hear the word hysteria used, but it was not. To say it is a functional affair is wise. The term "hysteria" has been abused for a long time, and I am not inclined to group under that head things which are not clear to me nor things which we do not consider as organic. That is bad neurology. As this man presents no evidences of hysteria I will not make that diagnosis. I agree that the case is functional. I have noticed, as Dr. Patrick did, that on voluntary movement, especially if of an automatic character, there is partial cessation of the tremor, even if momentary.

The case is an interesting one and it certainly is rare. I have seen but three in twenty years. The first one was in a young girl who had the same tremor confined to the pronator of the forearm. I carefully studied it. The case was reported in The Journal nearly fifteen years ago. The rate was 450 per minute, the fastest I have ever seen. Another one was in a woman and was undoubtedly hysteric. She presented the identical appearance that this man does. The ultimate result of treatment in the first case was absolutely *nil.* Suggestions and other means were unavailing. The young woman recovered after more than a year, without treatment. I do not know the result in the second case.

I have tried hyoscyamus in large doses in this man, without any effect on the tremor, and I believe that the relief lies, as Dr. Sudduth says, along the line of suggestion. If Dr. Sudduth, who is more skilled in applying suggestions, which in my hands is a very discouraging procedure, is willing to try it on this man I will be very glad indeed to put him in his charge and see what he can do for him.

San Francisco Society of Eye, Ear, Nose and Throat Surgeons.

March Meeting.

WHITE OPTIC ATROPHY IN TABES.

Dr. **Geo. W. Merritt** presented two tabetic patients with white optic atrophy, as illustrating that the atrophy of spinal disease is not always of the gray variety.

INJURIES TO THE EYE.

Dr. **Geo. H. Powers** presented a boy who, some time ago, was struck on the left eye by a ball, causing traumatic cataract. Several needlings were done and some vision recovered, but a rather dense membrane remains. The plane of the iris is far back, making the anterior chamber excessively deep, and a peculiar, spongy, black substance occupies the whole periphery of the anterior chamber.

Dr. Powers also presented a man who, five days before, was injured by a bit of steel from a chisel, which had penetrated the cornea, iris and lens near their superior periphery. The iris was torn away at its upper periphery. The lens when first seen was swollen and opaque. Two days later Dr. Powers took the patient to Dr. Pischel, who used his giant magnet. A "pulling" was felt when the circuit was closed, and a piece of steel weighing six grains jumped suddenly to the pole. There was no reaction and is now perception of light with ability to tell the direction of hand shadows.

Dr. Powers' third patient, a young railroad employee in good health, was attacked with a sudden feeling of apprehension of impending calamity so that he could not work. Two physicians who attended him thought there was cerebral lesion. In the meantime the patient discovered, on unintentionally covering his left eye, that the right one was blind, and this frightened him to the verge of collapse. Tension of the blind eye was normal, with posterior synechiæ, opacity of the lens, and evidences of suppuration. Dr. Powers asked an expression of opinions as to whether there is any connection between the mental condition and that of the eye, and as to the advisability of removing the blind one.

Dr. **W. F. Southard** presented a man showing the extensive ravages of tertiary syphilis. The right eye was deviated far upward and outward, part of the palate lost, and the vertebræ exposed. There was a fair vision in the right eye.

Dr. **R. W. Payne** presented a rare case of corneal disease, in a man of about 50, who had worked for many years in a smelter, being exposed to very irritating fumes. There was no specific nor rheumatic history. On the cornea were elevations in islands, between which were clear, transparent spaces. The elevations appeared to be epithelial. Peritomy and curetting had improved the condition.

Dr. **W. F. Southward** said he had seen a similar case in a child, with Dr. Schloss. The cornea was nearly covered with elevated opacities similar to those in Dr. Payne's case. He had shaved off a bit of the growth, and the microscope showed it to be epithelium. Nothing similar is described in the text-books.

DEMONSTRATION OF TESTS FOR MUSCULAR ANOMALIES.

Dr. **F. B. Eaton** limited his demonstration mainly to the tests for what is variously termed suppressed squint (Maddox), heterophoria (Stevens), and superable squint (Duane). All deviations are properly strabismic, the difference between strabismus and heterophoria being one of degree, not nature. Strabismus can be conveniently defined as the habitual absence of binocular vision, and it is important to determine when this is the case. Most of the tests are familiar, and only those were dwelt on which are misunderstood or neglected. To insure economy of time, and accuracy, some form of optometer must replace the trial frame, and one was shown which he has devised, after the one of Dr. S. D. Risley, Philadelphia, and which insures proper centering and levelling of lenses and double rotary prisms; it is fixed to the chair, and renders the examination more rapid, exact, and less fatiguing to examiner and patient. The ultimate muscular condition should be found after careful correction of the refraction, but at the first consultation a certain routine of muscular tests is necessary to avoid error in prognosis, and misunderstandings. Dr. Eaton makes the tests in the following order:

Inspection.—In addition to the ordinary observation of the movements when the eye follows a pen point, etc., attention was drawn to the value of the ophthalmoscopic corneal reflection as an objective test of deviation, first introduced by Priestly Smith. The patient fixes the hole in the mirror at nine inches, and the reflections are referred to the cornea, not to the pupil. This method is of particular value with infants, the light being thrown *rapidly* from one eye to the other.

Colored Glasses.—This test is familiar. Dr. Eaton has found that diplopia can be produced in all persons, provided the color is deep enough. When the diplopia is thus difficult of production, he has found esophoria for distance almost invariably present. Stevens has stated that 1 degree of hyperphoria by a red glass indicated habitual diplopia as also 1 or 2 degrees of esophoria or exophoria, but Dr. Eaton has found notable exceptions to the contrary.

Screen.—The screen or cover test is well known. It should be used in different parts of the field, both for the near as well as for distance.

Parallax.—This test is generally made too rapidly.

Maddox Rod.—The light should be small, with a background of black velvet. The tangent scale for both distance and near is the best method of using. For distance, esophoria of over 10 degrees and exophoria over 8 or 10 degrees by the rod generally indicates habitual loss of binocular vision. For the near, Dr. Eaton has found the Edw. Jackson rod with Maddox' small tangent scale the best. A clear black line is formed by the cylinder that acts as a rod, out of the black head of the arrow of the scale.

Prisms.—In spite of its convenience, the Stevens phorometer is far less sensitive and accurate than the Maddox rod. This has also been the experience of Dr. Hubbell of Buffalo, N. Y., who has shown that its findings, at least for distance, are unreliable. Both the rod and phorometer findings are modified by the range of accommodation, by spasm of accommodation from atropin and intense light. Stevens states that with his phorometer, hyperphoria of over 4 degrees and lateral heterophoria of over 8, indicate habitual absence of binocular fixation.

Prism Abduction.—Double rotary prisms, one before each eye, turned on simultaneously, give the abduction with absolute accuracy. Noyes and Valk prefer square prisms. For the near, abduction of 16 to 20 degrees may be taken as normal. With good health, an abduction of only 4 degrees at 20 feet can exist without asthenopia.

Prism Abduction.—At 20 feet, 20 degrees on to any amount may be considered normal; for near, 30 to 40. The dictum of Risley, that for distance the ratio of adduction to abduction is normally 3 to 1, has been found by Dr. Eaton to be a good working rule.

Convergence Near-Point.—This should be measured in meter-angles, the normal being, according to Landolt, 9½ meter-angles on an average, or 4⅓ inches from the eyes. According to Duane, it is 2 inches, and he considers 1 inch abnormal. For an average interocular distance, 7 degrees of prism (refracting angle) equals one meter-angle. Error will occur unless with presbyopia, the patient is given lens correction for four inches. The length of time the subject can *hold*
ence for near is to be observed.

Monocular Field of Fixation.—This is taking its place as an important test in asthenopia. There is disagreement as to the normal bounds, and Stevens is at variance with all other observers. The method is of value in determining the muscle or muscles at fault in old cases of paresis with contraction of other muscles and consequent concomitancy. Also, before operating, to indicate whether tenotomy or advancement is indicated, etc.

Dr. V. H. Hulen, on beginning his demonstration, stated that he would give the tests as he himself used them and not as others had. He first inspects the face and skull as to possible asymmetry. He has not found muscular troubles at all connected with asymmetry. One muscular test will show abnormality, another none, hence we should employ a number of them. He has found the Maddox rod test more accurate and searching than the Stevens phorometer, nevertheless the latter instrument has given him great satisfaction, owing to its great convenience.

Stevens' Stenopaic Lens.—This piece of apparatus Dr. Hulen has found very useful. It is the only test he is acquainted with that gives, at once, all the deviations, vertical and horizontal. He rarely prescribes prisms, since they weaken the muscles, and we have to increase their strength. He has watched Dr. Noyes, and found his method of using square prisms the best.

He demonstrated Dr. Noyes' holder, consisting of a central stem 20 inches long, graduated in inches, centimeters and meter-angles, on which is a slider carrying test-cards, and carrying three cells before each eye, in which corrective glasses and square prisms can be used. This apparatus is also useful in determining the presence of spasm of the accommodation. He also demonstrated a small trial box he had made to hold lenses and square prisms, and which he used on the arm of the Stevens phorometer. The Stevens tropometer was then demonstrated. Dr. Hulen believes this to be the best instrument for measuring ocular rotations.

New York County Medical Association.

New York City, March 19, 1900.

REPORT OF A SUCCESSFUL CASE OF EXCISION OF THE CECUM WITH END-TO-END ANASTOMOSIS.

Dr. Frederick Holme Wiggin reported this case, the report appearing elsewhere in this week's Journal.

SYMPOSIUM ON SERUM THERAPY.

Dr. E. K. Dunham opened the general discussion, and was followed by Dr. E. A. de Schweinitz, chief of the Biochemic Division, Bureau of Animal Industry, U. S. Department of Agriculture, Washington, D. C., on "Tuberculins and Their Use." Dr. Alexander Lambert read a paper on "Antipneumococcus Serum," followed by Dr. W. H. Park, on "Diphtheria Antitoxic Serum. Dr. Charles B. Fitzpatrick then presented a paper on "Yellow Fever Antitoxic Serum," giving the results of some work done at the quarantine station. This was followed by one on "Antitoxic Serum," by Dr. R. J. Wilson, and one on "Antistreptococcus Serum," by Dr. H. Lilienthal. Dr. Wm. B. Coley presented a paper on "Serum Containing Mixtures of the Toxins of Erysipelas and Bacillus Prodigiosus." The above papers are printed elsewhere in this week's Journal.

Dr. William H. Welch, of the Johns Hopkins University, being unable to be present, sent a communication on "Typhoid Serum," in which he outlined his views. He does not think there is at present any satisfactory clinical evidence of the beneficial effect of serumtherapy in typhoid fever, though there is a sufficient experimental basis to justify, under proper conditions, the use of the vaccin as a prophylactic agent.

Dr. W. Travis Gibb, in speaking of the value of diphtheria antitoxin, mentioned a series of 19 fully developed cases of diphtheria that he had treated in this way, in some of which there had been instructive contrasts in the same households between the results of this treatment and of the older methods. He found that the temperature was usually decidedly reduced soon after using the antitoxin, and that it was kept in check. He never noted any unpleasant constitutional symptoms follow the injections.

Dr. S. A. Knopf, speaking of the treatment of pulmonary tuberculosis with tuberculin, commented on the complexity of the problem, and the well-nigh impossible task of differentiating between the legitimate effects of such special treatment and those effects dependent on other means simultaneously employed, for, he took it for granted that the conscientious physician would not feel justified in treating any case solely with tuberculin, neglecting other and well-known measures for the management of consumption. He has tried the antistreptococcus serum in a few cases, but the results have not been encouraging, and he has discarded it.

The Kings County Medical Association.

Brooklyn, New York, March 13, 1900.

(Continued from page 877.)

The advantages of this method are to be found in the rapid action, the absence of unpleasant odor, the absence of excitement and struggling, and the comparative freedom from unpleasant after-effects, and the great safety of the method. The speaker's own experience leads him to believe that unless very skilfully administered, the administration of gas alone, or of gas and oxygen is more dangerous than either ether or chloroform. The disadvantages are the rapid changes in the stages of narcosis, the great difficulty in administering it properly, the cumbersomeness of the apparatus, and its expensiveness. As a rule, the anesthesia is not deep enough for operations on the abdomen or rectum, and a small proportion of persons can not be satisfactorily anesthetized in this way. The method is especially adapted to patients to whom it is especially dangerous to give ether and chloroform, e. g. aged persons, or those greatly debilitated, or having serious organic disease of the heart, lungs, or kidneys. He has seen no fatalities from this anesthetic, but on two or three occasions witnessed an alarming degree of asphyxia.

Dr. E. R. Squibb said that in 1871 he read a paper on anesthesia before the Medical Society of the State of New York, and presented a simple apparatus which at that time was a novelty. It represented one of the earliest efforts to use a bag in connection with the ether inhaler. The apparatus consisted of a long muslin bag, having a narrowed central portion containing a sponge moistened with ether. The upper flaring portion constituted the face mask, and the lower part the bag into which the patient breathed. The bag was moistened when in use, in order to make it less pervious. The administration was commenced by placing about 10 cm. in a tumbler and holding it under the patient's nose until the mucous membrane had become anesthetized with this mild ether vapor. In this way anesthesia could be induced with very little trouble, and with a comparatively small quantity of the anesthetic. The objection made to the apparatus was that carbonic acid was breathed over and over again, as was also the ether vapor. For this reason the apparatus gradually went out of use, its place having been taken by Lente's inhaler.

Dr. Squibb then spoke of the preparation of anesthetic ether. He said that under the best management there would be collected 96 per cent. of absolute ether and 4 per cent. of alcohol. This inseparable alcohol is a very definite proportion. Anesthetic ether is distinct from the commercial ethers, of which there are two varieties. One of these contains 87 per cent. of ether, and the other, or lower grade, about 75 per cent. In order that the alcohol should act properly as an anesthetic agent it should be 96 per cent. ether. The strength of ether is defined in the U. S. Pharmacopeia by the specific gravity, but ether being a very volatile liquid it is exceedingly difficult to determine its specific gravity accurately. There is a variation within the pharmacopeial limit of 2.3 per cent. A difference of 1 degree C. would make a difference of 1 per cent. in the strength of the ether, and the specific gravity could only be accurately determined by the use of a specially devised specific gravity bottle. The errors arising from these sources would be sufficient to make a difference of 3 per cent. in the strength. All alcohol contains slight impurities which lead to the existence of certain odorous hydrocarbons in ether. Their presence is detected by dropping the ether on clean bibulous paper, and noting the odor as the ether evaporates. The odor of these hydrocarbons is analogous to the smell of a drunkard's breath when he is recovering from a spree. In his opinion the small traces of these hydrocarbons found in ether are often responsible for much of the nausea and vomiting following etherization. He feels positive that the surgeon who uses the cleanest ether will have the least vomiting among his patients. Ether having a specific gravity of .726 is a clean ether, while one having a specific gravity of .728—the pharmacopeial limit—*may* be an unclean ether.

Dr. J. C. Bierwirth said he had had the good fortune to have Dr. Bennett give gas and ether to some of his patients, and felt enthusiastic regarding the excellent results obtained. For example, in a woman of 74 years, suffering from malignant disease of the abdomen, both the induction of the anesthesia and the coming out of it were agreeable almost beyond conception. The method is peculiarly serviceable in anesthetizing children, as struggling and excitement are completely avoided. In one case in which nitrous oxid and oxygen was used, the anesthesia was like natural sleep, while in the case of a very neurotic individual the method proved an absolute failure. He has observed very little nausea and vomiting after gas and ether anesthesia. The inhaler devised by Dr. Bennett is an exceedingly simple and cleanly apparatus, and reduces to the minimum the quantity of ether consumed by the patient, he said, and he had used Dr. Squibb's muslin bag arrangement for a number of years, and found it quite satisfactory. At a recent meeting of the New York County Medical Association, Dr. R. H. M. Dawbarn made the assertion that Dr. R. C. Kemp's and Dr. W. H. Thomson's searches of the hospital records showed that one in sixteen had died as a result of ether anesthesia. He wished to declare his utter disbelief in the accuracy of that statement, and could not understand how such a statement could go unchallenged. Dr. Thomson and Dr. Kemp made some interesting experiments on animals, but giving ether to animals and to human subjects is a different matter. Undoubtedly a person with damaged kidneys is exposed to considerable risk from the common haphazard method of giving ether, but he has yet to see any serious trouble from this source if the ether has been properly administered. In one case, in which the kidneys were known to be damaged, and careful preparation had been made for the anesthesia, the anesthetic so stimulated the circulation that there was actually an increased activity of the kidneys afterward.

Dr. Jonathan Wright spoke of the use of ether in diseases of the upper air-passages. A patient with adenoids, he said, should be anesthetized to such a point that just as soon as the fingers and instruments are removed from the mouth, the patient would cough and expel the blood from the throat. To do this is exceedingly difficult with ether alone. He has seen two laryngectomies, lasting 1½ and 2 hours respectively, in which nitrous oxid was used with great satisfaction. One great trouble from ether in the upper air-passages is the bronchorrhea induced. A drawback to the use of nitrous oxid gas alone is the blackness of the field from the cyanosis.

Dr. William P. Pool said that the methods described in the paper are hardly applicable to the needs of the general practitioner. Chloroform acts, as do other anesthetics, on the respiratory organs. It is a very violent respiratory and cardiac depressant as compared with ether, and hence he wished to emphasize the greater safety of ether. He had one unpleasant experience with chloroform in a child on whom the operation for phimosis was about to be done. The chloroform had been given on a mask, according to the usually prescribed methods, yet before the reflexes were entirely abolished the respirations suddenly ceased, never to return. This suddenness of the lethal action of chloroform is what is so much dreaded. Ether should be given by the drop method, and air quite freely admitted. He believes the only proper field for chloroform anesthesia is in obstetrics. Such mixtures as the A.C.E. and the Schleich mixtures only give a chloroform effect slightly modified by the supporting action of the other ingredients.

Dr. William B. Brinsmade said that four years ago he read a paper before the Brooklyn Surgical Society, on the use of nitrous oxid, but it was received in silence. To-day this is quite commonly used in the hospitals, and both time and ether have been saved. The only criticism he would make on the bag inhaler is the uncleanliness inseparably connected with to-and-fro respiration. In cases requiring minute dissection the nitrous oxid is not satisfactory, because of the dark color of the field. He asked Dr. Squibb why it is that on damp days the patients do not take ether so rapidly as at other times.

Dr. E. R. Squibb replied that he knew no reason for ether being slower on damp days. A very slight current of air in the vicinity of the inhaler would be sufficient to blow away the ether and make it act slowly.

Dr. T. L. Bennett closed the discussion. He said that he had met with some very slow ethers in hospitals using a cheap grade, and the after-effects were distressing. It is unfortunate that there is more vomiting and after-disturbance from gas and oxygen than from gas alone, probably because the patient receives more gas by this method than where gas is given with air. The rapid asphyxia which supervenes when nitrous oxid gas is administered in the ordinary way prevents such a great intake of nitrous oxid as where the oxygen is administered in conjunction with it, thus largely preventing the asphyxia. Gas anesthesia is at best a rather light form of anesthesia as compared with that obtained from either ether or chloroform. As to the statement made by Dr. Dawbarn he is positive that the clinical reports from the hospital records were incorrect. The laboratory experiments of Dr. Kemp were well done, but his deductions from the clinical records are certainly open to question. Dr. Bennett said that his plan of anesthetizing persons for adenoid operations is to push the anesthesia to the full degree. As a rule, even though the anesthesia is light, considerable blood will get into the upper air-passages, but be discharged again very soon under proper management. The so-called bronchorrhea observed in connection with etherization is not a true one, but really a flow of saliva and mucus, and this being swallowed is regurgitated. In his opinion, ether kills more people through the lungs than in any other way. The immediate effects of chloroform are certainly worse than those of ether, but perhaps if both immediate and remote effects are considered, there will not be such a great difference in the safety of these two agents. He protested against accepting the opinion that the lethal effect of chloroform is instantaneous. He had studied this matter very carefully, and believes that there are always certain danger-signals present. In his experience it has always been foretold by the approach of pallor, by enfeeblement and slowing of the pulse, and by certain states of the respiration. Robust individuals are apt to breathe too vigorously, and take in an overdose of chloroform. The pains of parturition act as a most powerful vasomotor stimulant, and this, together with the hypertrophy of the heart occurring during pregnancy, explains the immunity of the parturient woman under chloroform anesthesia. He suggested that the reason ether is slow on damp days is because of the low atmospheric pressure at such times. It has been found by careful experimentation that variations in the pressure under which gas is administered produce widely different results. It is a recognized fact in the London dental institutions that nitrous oxid gas acts much more slowly when the barometric pressure is low.

Direct Questions, As on Deafness.—Medical witnesses, the Court of Appeals of Maryland holds, may properly be asked such question as to whether the deafness in one ear of a person thrown from a wagon in collision with a street-car was the natural and probable result of the accident. Nor does it deem it necessary that the evidence should be restated in the form of hypothetical questions for them. It holds it enough, in Baltimore City Passenger Railway Company vs. Tanner, that the witnesses simply based their opinions on the facts given in evidence, that were not disputed. [illegible] being familiar [illegible] these.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
61 MARKET STREET, - CHICAGO.

SATURDAY, APRIL 14, 1900.

EPIDEMIOLOGY AND PROPHYLAXIS OF MALARIAL FEVER.

Since the discovery by Laveran, in 1890, of the parasites of malarial fever, there has been unceasing activity in the study of this most important subject. For a time the great interest aroused by the revelations of bacteriologic investigation tended to divert attention from other problems in the domain of etiology, and it is only recently that the field has broadened, and the discoveries in the realm of animal parasitology promise to be not less important than those that have been made in that of vegetal parasitology. That malarial fever may be transmitted through the agency of mosquitoes has been suggested at different times in the past by a number of observers, but the demonstration of the fact has been made only within the last few years. Important work has been done in this connection especially by English investigators in India, by Italian investigators who have pursued this subject with unremitting industry and perseverance, and by German investigators in Africa, and there has been a remarkable concordance in the final results. Among those who have engaged in these studies for many years is Professor Celli,[1] Director of the School of Hygiene, in the University of Rome, who recently contributed an important article on "The Epidemiology and Prophylaxis of Malaria in the Light of Recent Researches." This paper is a summary of what Professor Celli says on these subjects in his book entitled, "La Malaria secondo le Nuove Ricerche," published in 1899, and in successive communications. Celli points out that man is the temporary and the mosquito the definitive host of the malarial parasite, which completes its asexual life and prepares its sexual form in the human blood; while it completes the sex cycle of life, that by which the species of the parasite external to man is assured, in the middle intestine of the mosquito. In the circulation of the malarial contagion the presence of malarial man is indispensable, as the hereditary transmission of malaria from mosquito to mosquito has not yet been demonstrated experimentally or morphologically; nor have resisting parasitic forms been found in the environment external to the body of the mosquito. Transmission is effected only by certain varieties of mosquitoes, and these belong to the genus Anopheles. So far as is at present definitely known, the specific germs external to man do not live in the soil nor in the water, but in the body of the mosquito, although the two former may be favorable or not to the life of the latter. The mosquitoes lay their eggs in sequestered places in clear, slowly running or stagnant waters. The so-called ground waters that appear at the surface and run slowly—trenches, canals, etc.—or are slowly renewed—lakes, ponds—contain the best pabulum for the development of the larvæ of the Anopheles. These waters are relatively cool in summer and relatively warm in winter. The larvæ of the mosquitoes offer slight and the nymphæ much resistance to desiccation. Freezing is injurious, as is also putrefaction after a time. The immature forms can not live in sea-water, in saline waters nor in strong sulphurous ones. Rapid movement of the water further is hostile to their development. The infective agents are most plentiful in the atmosphere during the hours of evening, sunset and night, as the insects lie hidden and sequestered by day. The infective agents rise from limited foci and spread for a limited distance horizontally, obliquely and vertically, as the insects do not fly far from the place where they are born and not to any considerable height. Winds tend to diminish the number of infective agents in the atmosphere by keeping the insects in their hiding places. Woods may be foci of malarial infection, as when they are shady and damp they are the homes of mosquitoes. Of all the vehicles of malarial infection hitherto suggested, the mosquito is the only one that has yet been directly and undoubtedly demonstrated. The only indisputable path by which the infective agent penetrates is the skin bitten by the proboscis through which the infecting mosquito inoculates its sporozoites. The same mosquito may in a single night bite and infect many persons. The biting apparatus is so powerful that it can penetrate a tough skin and bite through fairly thick clothing. The Anopheles do not make a humming sound and are not so annoying as other varieties of mosquitoes, so that one may not be aware of their presence or of having been bitten by them. There are numerous predisposing causes and a number of immunizing agencies against infection with the malarial parasites. Thus, chilling of the body is a predisposing factor; and children are more prone to infection than adults. No race is per se endowed with congenital or hereditary immunity, although some individuals are naturally immune and in some immunity appears to be hereditary. Malaria cachexia may be followed by immunity. Artificial immunity can be induced by drugs, such as euchinin and methylene blue.

Of first importance in prophylaxis, after the diagnosis has been made by microscopic examination of the blood, is the removal of the patient from the locality in which the infective mosquitoes prevail—preferably to an elevated situation—in order to avoid repeated infection of the patient, as well as infection of others. Nor should the patient return until his blood is shown to be free from parasites. At present a practical means of treating the patient in order to prevent biting by mosquitoes is wanting. Quinin is a specific disinfectant for amebic organisms, and consequently for the malarial parasites in the amebic stage. It is, therefore, best given after a paroxysm. Large doses should be administered, 30 grains for example at the beginning of the infection, and be repeated in doses of 8 grains for several days and then at intervals of five, six or seven days. This treatment does not, however, prevent recurrences, and for this purpose steps should be taken to destroy the larvæ in the water and the mosquitoes in the air. The larvæ can be destroyed by means of certain vegetable powders —as the expanded flowers of Dalmatian chrysanthemums on a large scale in malarial places. The mosquito can be destroyed by the fumes given off by an ignited powder composed of the unexpanded flowers of the chrysanthemum, valerian root and aniline dyes. Various measures may be employed to protect the skin against bites, such as avoidance of exposure of the surface of the body after dark, the protective influence of special coverings for the skin, the use of screens, netting, etc., local application in the form of washes, ointments and soaps of essential oil of turpentin, iodoform, menthol, valerianic acid, extract of tobacco. The most promising agent for the establishment of artificial immunity is methylene blue. Arsenic used on a large scale is said to have yielded uncertain results. A most important general prophylactic measure consists in efficient drainage and the provision of a healthy soil. Above all things, opportunity for the accumulation of water should be removed. In addition general hygienic principles must be observed and all predisposing influences avoided.

---

[1] British Med. Jour., February 10; Berliner Klin. Woch., February 5 and 12; The Journal, March 3, 1899.

DISEASES OF THE PINEAL BODY.

Some time ago reference was made in these columns to a form of giantism in a boy, 4 years old, associated with sarcoma of the pineal gland. The case was described by Oestreich and Slawyk.[1] In the Transactions of the London Pathological Society for 1899 (Vol. l) there occur a number of interesting reports of cases of tumor and of other lesions of the pineal body. Cyril Ogle describes a primary, slightly pigmented sarcoma of the pia over the surface of the cerebrum. The patient was a woman, 32 years old. The illness began suddenly, with a fit of unconscious and right hemiplegia; this was followed by headache, emaciation, choked disc, mental dulness ending in coma, intermittent aphasia and right hemiplegia. There is no mention in the report of any abnormal enlargement of any part of the body. The patient was under observation for ten weeks.

Ogle also describes a tumor of the pineal body in a boy aged 6 years. The growth was globular, about one inch in diameter, and the only tumor in the body. Its structure is best described as that of an alveolar sarcoma with hemorrhage and cysts. There were certain spaces, lined with columnar epithelium, which it is thought might possibly represent a rudimentary retina. The first symptoms noticed were a change in manner, inclination to sleep a great deal, and masturbation. It is noted that the penis was uncommonly large, the pubic hair plentiful but the testicles were not excessively large. The gait was staggering. Sleepiness continued to be the most striking symptom. The external recti became paralyzed and the eyes blind. The enlargement of the penis, the general symptoms of an intracranial tumor, the blindness, etc., led to the probable diagnosis during life of a tumor of the pituitary body. Ogle mentions that Heubner[2] has recorded a case of tumor of the pituitary in a boy 4½ years old, in whom the penis, scrotum, and testes were abnormally large, and the pubic hair fully grown. The excessive growth took place in one year.

Lawrence also reports a tumor of the pineal gland in a male aged 16, associated with acute tuberculous leptomeningitis. The tumor was relatively small; it is described as a gliomatous growth, the central part having undergone degeneration. There is no statement of any changes in the development of the body in this case.

Garrod, Russell, and Campbell describe several examples of cystic formations in the pineal body, but without much if any clinical significance; at all events there is no record of any clinical symptoms referable to the resulting enlargement.

Finally Lord makes some general statements concerning the normal structure and morbid changes of the pineal body. He also describes an enlarged pineal body in a case of cerebral gummas; the septa of the gland were extremely cellular, new septa had formed, and the condition resembled a hypertrophic cirrhosis.

In addition to the tumors of the pineal body recorded by the London observers, by Oestreich and Slawyk, and by Heubner, it may be well to mention that Weigert and Gutzeit each describe a teratoma; Ziegler, Coats, and Falkson record growths of a sarcomatous structure containing cysts or glandular formations lined with cylindric cells; in Turner's case the structure was also complicated, the sarcoma containing collections of large cells, referred to as carcinomatous, and other cells regarded as nerve-cells; Duffin "reports a case of apparently a solitary glioma." Oestreich and Slawyk mention that Henrot has described a case of acromegaly with sarcoma in both the pituitary body and the pineal body.

The pineal body develops as a hollow outgrowth of the posterior portion of the fore-brain; in some of the lower animals the hollow outgrowth becomes elaborated into a median eye, which is especially perfect in the lizards (Badwin Spencer). This eye is not functional in any living animal. The relation of the pineal body to a third eye has been fully *discussed in an editorial in this* journal.[3]

Special nervous functions are not attributed to this body. Ogle mentions that extracts of it are sold, to be given "in functional diseases of the brain due to failure of nutrition; in cerebral softening; chronic mania, and dementia." Representing developmentally a median eye, it would not be expected that diseases of the pineal body would cause anomalies of growth such as follow changes in the anterior lobe of the hypophysis, and of the thyroid gland. The pineal body does not possess a glandular and secretory structure as ordinarily understood. It is composed of spaces filled with small nucleated cells of a uniform appearance. Nerve-fibers are described in the pedicle; the question of their occurrence in the pineal body proper does not seem to be fully settled.

---

[1] Virchow's Archiv, 1899, 157, 475.

[2] Allg. Med. Central Zeitung, An. 25, S. 89. (Quoted by Ogle.)

[3] THE JOURNAL, Feb. 15, 1896, p. 343.

It would therefore be a matter of some surprise if it should appear that diseases of the pineal body are closely associated with anomalies of growth. There are now at least three cases of tumor—all described as sarcoma—of the pineal body associated with overgrowth, especially of the genital organs, namely Ogle's, Oestreich and Slawyk's and Heubner's. All three concern boys between 4 and 6 years of age. In two the overgrowth was limited apparently to the penis, and the exact time of its onset is not given. The overgrowth was most marked in Oestreich and Slawyk's case, resulting in a form of giantism, distinct however from acromegaly. Future observations must decide whether the overgrowth, which appears to have especially involved the genitalia, was a mere fortuitous matter, in these three patients, whether it was caused by the changes in the pineal body itself, or by secondary effects of the tumors on adjacent structures.

Some of the symptoms of tumor of the pineal body are in many respects similar to those produced by Ferrier by destroying the surface of the superior tubercles of the corpora quadrigemina in monkeys: blindness, dilated and stiff pupils, no motor nor sensory paralysis, but loss of normal equilibrium. Another symptom that was marked in some of the cases is sleepiness.

THE DEADLY PNEUMOCOCCUS.

The dominant microbic pest of mankind is generally supposed at the present time to be the bacillus tuberculosis which causes one-seventh of the mortality of civilized races, or at least it is so claimed. That this estimate may be too high and that the morbidity of tuberculosis is not quite as necessarily equivalent to its mortality as was formerly supposed does not materially affect the question: it is one of the most serious health problems with which we have to deal. With the attention that is now being given it, however, there is a chance that we may overlook some other perhaps hardly less formidable disease, and possibly neglect matters that are of only slightly less importance than the "great white plague." According to the report of the Health Department of the City of Chicago, the deaths from consumption in that city during 1899, numbered 2516, and from tuberculosis of all varieties and locations, 2920—a percentage of 11.449 on the total mortality. During the same period the deaths from pneumonia also numbered 3438, or a percentage of 13.48 on the total deaths. In other words, the mortality of pneumonia exceeded that of all forms of tuberculosis by 518 or 17.7 per cent. If we take the year 1899 alone, pneumonia would appear to be a much more important factor in the mortality than tuberculosis. It, however, is rather exceptional in this regard, and this is more noteworthy since the total annual death-rate for the year was small—only 14.57. Taking up the statistics of other years we find that in 1898 also the deaths from pneumonia numbered more than those from consumption, though not more than those from all forms of tuberculosis, and that in the previous years since 1890 the deaths from this cause have generally exceeded those from pulmonary tuberculosis, the years 1894, 1896, and 1897 being the only exceptions. Prior to 1890 the deaths from consumption invariably exceeded those from pneumonia. Another striking fact is that while the ratio of deaths from consumption to the total mortality has been nearly stationary for the past twenty years, and its ratio to population has decreased, that from pneumonia has increased rather than otherwise in both these respects.

These figures of the comparative mortalities of tuberculosis and pneumonia are obtained from Chicago, a lake city, where lung and catarrhal diseases prevail, and the question whether the same general tendencies exist elsewhere may be raised. To test this we have consulted the health reports of several states that publish accurate vital statistics. In Massachusetts we find that the pneumonia death-rate on the total mortality has risen from 7 to 8 per cent. in the late '70s to 9 or 10 in the last decade (1888-1897). In the same period that of consumption has decreased from about 17 to about 11½ per cent. In Rhode Island and Connecticut we find a similar increase of pneumonia and decrease of consumption mortality, and were the figures available we would probably find them corresponding more or less closely throughout our northern Atlantic and lake regions. It is unfortunate that there are not fuller data for the interior states, but what we have for many of them are not likely to be quite as full and reliable as those to which we refer. There is evidence enough to show that, while recognizing the influence of the grip during the last few years and making all due allowance for less perfect diagnosis in the past, pneumonia mortality is on the increase over a considerable portion, at least of the northern United States, while that of phthisis is diminishing.

At the present time acute lobar pneumonia is recognized as an infectious disease, due to a germ, the pneumococcus of Fraenkel in at least 95 per cent. of cases. What proportion of the fatal cases of pneumonia reported in the health statistics were of this type, and what were due to other germs, streptococci, Pfeiffer bacilli, etc., is not certain, but we can probably assume with reasonable certainty that 70 or 80 per cent. were pneumococcal. The estimate of Netter that 66 per cent. of pneumonias are primarily due to this germ is probably an under- rather than an over-estimate. While something may be allowed for diagnostic errors, we certainly have here a formidable showing of the malignant activity of this germ in this one disease. When we also take into consideration the fact that it is an active etiologic factor in the diseases of many other organs of the body besides the lungs, in the disorders of the central nervous system, of the air-passages and throat, the pleura, the heart and its envelope, the ear, the liver and elsewhere, it will plainly appear that we have not adequately estimated its morbific powers. In fact it is probably not much less widely disseminated as an agent of evil than is the tubercle bacillus, and the apparent increase in the mortality it produces suggests at least the utility of a fuller study of its natural history and its prophylaxis. While we are giving our attention to tuberculosis, a disease that is apparently on the wane, if only to a slight extent, we might also divert our minds with one that is apparently increasing among us. It is not necessary to excite alarm, but a little more attention to a disorder that has, we have reason to believe, a widely varying range of virulence and which, in our northern climate, is our most fatal disease for at least half the year, would not be out of place. The fact that it is so closely related in its morbidity and mortality to climatic conditions would seem to indicate the chief line of prophylactic endeavor, but there are other factors also to be considered. At the present time it appears to be getting a little the better of us and it is for us to find the reason why.

ORGANIZED EFFORT SUCCEEDS.

The effect of even partial organization among physicians was easily noticeable in the recent city election in Cincinnati. One of the appointees of the city administration was an out-and-out quack and, as a body, says the *Cincinnati Lancet-Clinic,* "the medical profession was weary and tired of making reports to an ordinary plain quack." Hence the physicians made up their minds that there should be a change. And there was a change.

HEALTH AND HYGIENE.

A somewhat celebrated Boston philosopher says he has lived according to the following rules: he always sits in a draft when he can find one, wears the thinnest underclothes he can find, winter and summer, and prefers to work in a cold room, 55 to 60 F. He works the largest part of the twenty-four hours, day or night indifferently, eats when hungry, rarely tastes wine but drinks two or three quarts of beer daily and smokes a pipe all the time when he is at work. He evidently considers himself a pattern of health, and apparently publishes his rules of living in a sort of spirit of bravado, and to make himself a monument of the futility of ordinary hygienic rules of life. There is a streak of vanity in the announcement, but great men are often vain and may even be foolish in regard to their personal qualities. One with an originally strong constitution, favored with a special freedom from accidental disease, gifted with a happy, equable disposition and living under favorable conditions, can sometimes sin for a time against many of the minor and some of the major hygienic moralities with comparative impunity. Thus we occasionally hear of favored beings who have gone to bed drunk every night up to 90 or 100 years. These are, however, somewhat apocryphal; they are seldom people of much intelligence and possibly also not always reliable as to their ages or history. In the case above we have a noted man in the prime of life, 58 years old, who has done much intellectual work of a high order in his past, and should have a considerable future still before him. He is said to be in his dimensions, 72 inches by 46, and to weigh 240 pounds or more, from which it would appear possible that the degenerative processes had already made a headway in his organism. One does not care to venture prophecy in any such individual case, but it is variously suggestive, and it will be of interest to watch its future. In the meantime we ordinary people will do best for ourselves by obeying and living according to the well-established rules of temperance and hygiene.

THE PRODUCTION OF CARCINOMA BY EXPERIMENTAL DISSEMINATION OF EPITHELIAL CELLS.

H. Lambert Lack[1] in a preliminary note, describes an experiment which he made in order to test his view that carcinoma is simply the result of the entrance of the normal epithelium of the body into the lymphatic spaces and its continued growth therein. Opening the abdominal cavity of two rabbits, the ovaries were cut open, the raw surfaces freely scraped, and the milky juice containing free epithelial cells thus obtained, was allowed to diffuse through the peritoneal cavity. In the animal which survived for about one year numerous peritoneal nodules were found extending into the liver, and similar growths on the pleura, the pericardium, in the lungs and in the mediastinum. The microscopic structure was that of a columnar-celled carcinoma. Unfortunately for the value of this experiment, which is tentatively claimed to have produced the disease, and has been so interpreted by others, the condition of the uterus has been left out of the consideration. "The uterus was greatly thickened; the mucous membrane papilliform, and at the place in the wall was a tumor as large as a cherry." There is no record of any microscopic examination of this growth to show that it is of different structure from the other tumors, and it is believed that one is fully justified in saying that the possibility of this growth in the uterus being the primary carcinoma, and developing under perfectly natural conditions, can not now be successfully denied. Shattock[2] has recently described carcinoma of the uterus of a rabbit, showing that uterine carcinoma may develop spontaneously in this animal.

QUACKERY IN AMERICA.

The other day, in London, an American was sentenced to five years' imprisonment for swindling. The fellow was a palmist and had plied his trade in Chicago, New York and elsewhere in this country unmolested, and he thought he could do the same abroad, but he could not. Commenting on the occurrence, the *Chicago Journal* says: "There seems to be something in the social atmosphere of this country peculiarly favorable to impostors of the palmist and clairvoyant order. They flourish here. Foreign observers have been amused not a little to see their signs hung out like a physician's shingle and their columns of cards in the newspapers. They flourish elsewhere, it is true, but not to the same extent. This, among civilized countries, whose people are suspected of intelligence, is the real paradise of the palmist, the spirit rapper and the astrologist." And it might have added: the advertising quack, the medico-religious humbug and the secret nostrum vendor. Just why this country is such a profitable field for every kind of humbug and delusion is a question on which we are not prepared at this time to hazard an opinion. The truth of Barnum's assertion, however, is more evident to-day than ever. Dowie, failing on his native heath, went to Australia and tried to work the people there, but his success in that country was such that he was penniless when he arrived in this land of liberty. Here, though, in a few short years he has succeeded in gaining not only a large following, but, what is more to the purpose, a large fortune. A little while ago a man in Missouri, of the name of Still, promulgated a theory that all the physical ills of the human race were caused by misplaced ligaments and dislocated bones, and now thousands of dupes, even including senators and governors—who by the way are not necessarily overly gifted with either common sense or statesmanship—are believing in this new "scientific" discovery. Could such an idiotic theory obtain a foothold in any other country, and if not why not? Down in Missouri—poor Missouri!—another fellow is rapidly becoming rich as a magnetic "healer" who "has the power to give the absent as well as the present treatments." He also gets them coming and going, for he teaches others—at so much per head, of course—and is rapidly building up another system or school of treatment. A newspaper before us contains four columns of advertisements of clairvoyants, palmists, trance mediums, etc., more than a hundred individuals and all located in this city of schools. A third of the advertising space of the same paper, and it is one of the best in Chicago, is taken up with advertisements of quacks and quack medicines. These show to what depths of moral degradation the advertiser will stoop, and at the same time show how much credulity and how little common sense the average reader must have. Why does all this pertain to this and to no other country?

---

[1] Jour. of Path. and Bact., 1899, vi, 154

[2] British Med. Jour., 1900.

WOMEN NURSES IN MILITARY HOSPITALS.

At the present time there are before the military committees of Congress two bills, S. 3731 and H.R. 6879, providing for the employment of women nurses in army hospitals. From this it is not to be inferred that there are no women nurses in the army. On the contrary, early in the Spanish-American War female nurses were employed by the Surgeon-General of the Army for service in the general hospitals. In September, 1898, over a thousand trained nurses were on duty in the hospitals, general and field, and at the close of the last fiscal year two hundred were still on the rolls. Experience gained during this period enabled Surgeon-General Sternberg to provide an efficient organization for the women nurses. The regulations governing the female corps were published in full in his last annual report. If the above-mentioned bills limited their provisions to the accomplishment of that which is stated to be their object we would merely question the necessity for legislation to effect that which has already been effected and which has already received congressional sanction in the form of appropriations for the payment of the nurses employed. These bills, however, give specifications as to the character of the organization which, if they became law, would necessitate a reorganization on new and untried lines. That the army does not look with favor on the proposed legislation may be seen from the introductory paragraph of an editorial discussion of the subject in the *Army and Navy Register,* April 7, 1900:

> We see no reason for the enactment of House bill 6879 and Senate bill 3731, which have the identical ostensible purpose of providing for the employment of women nurses in military hospitals of the army. This measure has influential backing, most of the supporters being women of prominence who have devoted themselves and their resources to charitable and humane tasks. The high character of the friends of the bill should not preserve it, however, from the defeat which so unmeritorious a measure deserves. There are no arguments to justify passing the bill. It offers no improvement on the existing system of supplying women nurses to the military service. That system was evolved from the methods of the war and is conducted on practical lines within the control and administration of the Surgeon-General of the Army and the Secretary of War.

TABLET-TRITURATES AND READY-MADE PRESCRIPTIONS.

The popularity of ready-made medicines is always a matter of concern to the pharmacists and to a somewhat lesser extent to scientific physicians. The very general use of tablet triturates and of special medical preparations is one of the facts we have to meet, and the question is how are we to meet it? Is it to be considered, as many of our pharmaceutical friends hold, an absolute evil, or shall we accept it as something to be modified only for the better? It is possible that it implies a lack of facility of drug-combining, and probably of a certain sort of pharmaceutical knowledge in the physician, and this is to be regretted. On the other hand, there is a certain attractiveness and apparent safety in some features of the new methods, strongly in their favor with medical men. An honestly made tablet triturate ought in many cases to afford as safe a method of administering powerful drugs as a pill or solution, however carefully compounded by a druggist from a prescription. It is the convenience of these preparations, however, that accounts for the favor with which they have been so generally received. We should probably not be able to get rid of them even were it desirable to do so, and it is well therefore to make the best of the situation. The one ethical rule that it is safe for any physician to follow will be to prescribe or to give nothing unless its composition and reliability are known. It would be a still better rule to avoid the use of all ready-made compounds, except such as are official, and to cultivate such a knowledge of pharmacy and therapeutic invention as will make the physician perfectly self-reliant in this respect. The simple drugs or alkaloids in triturate form have probably come to stay, and the fact need not be altogether deplored, for reasons already given, but the prescriptions made up in this form tend to encourage a sort of therapeutic laziness that should be discouraged. The ideal physician is one who knows and understands thoroughly the tools he uses, and it is to be feared that the present tendencies, while admirable in some other respects, are not what one could desire in this particular direction. In reading over the questions as published by various state examining boards, the thought suggests itself that they have it in their power to give more aid practically in the needed reform in this matter. The suggestion is therefore here offered of a more thorough practical test of pharmaceutic knowledge in their examinations than has sometimes, at least, been made. A suggestion of possibly still greater value would be that our colleges give more attention to this practical point. It may be that in our zeal for science we may have too totally overlooked the despised "cook book" therapeutic art of prescribing.

Medical News.

According to the *Medical News,* Mrs. Mary Baker G. Eddy, leader and founder of the "Christian Science" Church, is very ill at her home in Concord, N. H., with a cancerous affection.

The Liverpool School of Tropical Diseases has decided to admit qualified medical women on equal terms with men students. The second expedition for West Africa will soon start. The party comprises Drs. Annett and Dutton, and Dr. Elliott of Toronto.

Chicago's "Christian Scientists" are objecting to the teaching of physiology in the schools. They protested to the Chicago Board of Education, at its meeting, April 9, against it, against medical inspection of schools, and against the rules requiring vaccination. The reply of the Board was to the effect that the children of "Christian Scientists" would be governed by the same rules as were the children of the plain, common people.

We learn from the *Medical News,* that a physician from Kentucky, on Broadway, New York City, met two or three men, and one of them led him to believe that he had known him in Kentucky. The Doctor went with them to a place near Park Row and the Bowery, and in a spirit of friendship cashed a check for $400 for the one who claimed to have known him in Kentucky. The check turned out to be worthless. The physician was in New York preparatory to taking a trip to Europe, but after the loss of his money he returned to his home in Kentucky.

A writer in the *British Medical Journal,* March 31, points out that the death-rate from disease in the forces in South Africa has been considerably lower than the rate in the American Army in Cuba, but in both instances the most virulent enemy to soldiers has been typhoid fever. He persistently advocates boiling the water, and in South Africa it seems that this can be accomplished satisfactorily as there the water can be cooled to almost ice-cold by being suspended in canvas water-bags or felt-lined water-bottles in the open air, the dry atmosphere producing such rapid evaporation from the surface that the temperature is rapidly lowered.

Status of the Plague.—The Indian correspondent of *The Lancet* gives the recorded cases of plague in Calcutta as 481 for the week ending March 3, with about 100 deaths a day from March 3 to March 6, the date of writing. He shows that the plague returns for Bombay are too low, as published. The plague statistics for the whole of India, for the week ending March 3, gave 3363 deaths as compared with 3184 the previous week. In Karachi the deaths increased from 12 to 47, and in the Bengal Presidency, from 1905 to 1936 that week, while the *British Med. Jour.* (March 31) is authority for the statement that 4725 deaths occurred here the week ending March 21, and 744 in Calcutta. The disease has also appeared at Aden. In Mauritius, 8 new cases and 5 deaths occurred the week ending March 22.

The Profession in France.—The overcrowding of the profession, which has been the theme of so many jeremiads, has been shown to be a myth as far as France is concerned, by some recent comparative statistical studies. They show that in 1847, when no one thought of complaining of any overcrowding, there was one physician to each 2020 inhabitants; in 1876 there was one to each 2568; in 1896, one to each 2565. The physicians crowd to the large cities and centers of wealth, and forsake the smaller towns. In certain departments, like Haute-Savoie, there is but one physician to 4030 inhabitants. The overcrowding of the profession is therefore merely local congestion, while other regions suffer from the lack of medical attendance. These unexpected facts have been brought out by a prize offered by the French *Concours Médical* for the best work on the "Encombrement Medical."

Control of Venereal Diseases Among Troops.—On the recommendation of Major F. V. Ives, chief surgeon, Department of Matanzas and Santa Clara, Cuba, the department commander, Gen. J. H. Wilson, has issued a circular, dated March 13, 1900, requiring a weekly inspection of all the enlisted men of the command to be made by the medical officers in the presence of company commanders. A list of all men found to be infected with venereal disease is to be drawn up under the direction of each company commander, and this list is to be posted conspicuously on the bulletin board or in the barracks of each organization. The privilege of the canteen and all pass privileges are to be withheld from all those whose names are thus posted. This is not intended as punishment but as the removal of causes which could tend to retard the recovery of the individual. The circular provides also for instruction by medical officers to non-commissioned officers on the effects, results and prevention of gonorrhea, chancroids and syphilis that the latter may be in a position to influence and instruct the men of their companies.

Insanity Among U. S. Troops in Philippines.—For some weeks past there have been published in the columns of the daily press statements which lead the public to believe that military service in the Philippine Islands is not only destructive of the *corpus sanum* but also of the *mens sana,* for which it should furnish a habitation. We can attribute these statements only to sensationalism or to falsifications for specific purposes. The first announcement of the alleged disastrous effect on the mentality of our troops by the tropical or other conditions of our far away islands appeared in a Washington paper of February 13, giving what purported to be a telegram from San Francisco, Cal., of the same date, to the effect that: "Eleven insane soldiers were to-day sent from this city to the Government Hospital at Washington, D. C., and it is probable that about thirty more will go east during this week. During the last three months nearly 250 demented soldiers have been sent across the continent, and it is said that over 300 more will soon arrive here from Manila. In nearly all cases the men are violently insane." This drew from the Adjutant-General of the Army a statement to the effect that from May 1, 1898, which may be regarded as the beginning of our recent war experiences, to the date of the cited telegram, there had been received in [illegible] overnment Hospital for the Insane, to which all cases of this kind occurring in the military service are committed: 134 soldiers of the regular army, 70 of the state volunteers and 10 of the United States Volunteers, making a total of 214 cases in 21½ months, out of a force which for many of these months aggregated more than a quarter of a million men; and that 37 of these cases came from the islands of the Pacific Ocean. This should have put an end to the sensational statements of insanity in our military forces in the Philippine Islands, but the same publicity does not appear to have been given to the adjutant-general's statement that was accorded to the sensational telegram, for since then many letters of inquiry on the subject have been received at the War Department and a Senate Resolution, No. 222, was adopted March 22, calling for information concerning sanitary conditions and health in the Pacific Islands, and particularly concerning the number of insane soldiers sent home for treatment. In reply Surgeon-General Sternberg has stated that during the twenty-one months, July 1, 1898, to March 31, 1900, the forces in the islands had a mean strength of 32,000 men. From this command, during the period stated 55 men were returned to the United States for transfer to the Government Asylum for the Insane, a number which is equivalent to 31.3 cases for twelve months. These cases are then compared with the numbers committed annually to the asylum from the regular army during the past ten years. Nine of these years were years of peace; the tenth includes the period of active campaigning during the Spanish-American War. The comparison is as follows:

Year.	Mean Strength.	Insanity, Cases.
1889	27,206	34
1890	26,684	33
1891	26,460	37
1892	26,861	48
1893	27,659	35
1894	27,674	24
1895	27,326	21
1896	27,183	22
1897	27,374	21
1898	46,635	56
Mean—10 years	29.106	33.1

As to the character of the cases received from the Philippines the only information we have is that of 37 cases admitted into the hospital from the Philippines from May 1, 1898, to Feb. 13, 1900, 11 had already been discharged as cured on the latter date. From this we must infer that the men who scissor the items for the daily press prefer sensation to fact.

PENNSYLVANIA.

The Lancaster Board of Health has formulated an ordinance imposing a penalty on persons expectorating in a public conveyance.

The following officers were recently elected members of the Bridgeton Board of Health: president, Ellsmore Stites; secretary, Isaac T. Nichols; treasurer, William H. Ballenger; physician, John H. Moore

At a meeting of the Tamaqua Borough Council it has been decided to reduce the salaries of the health officer and secretory of the Board of Health to $50 annually. The Board of Health, however, has not agreed to this but fixed the salary of the health officer at $120, and that of the secretary at $100 annually. Whether Council can be made to pay the amounts named remains an open question.

The physical laboratory of Lehigh University, South Bethlehem, was destroyed by fire April 6. The building was a four-story stone structure, erected in 1893, and with its contents was valued at $200,000. The insurance on the building is $50,000. It is announced that the laboratory will be rebuilt at once.

BOARD OF MEDICAL EXAMINERS.

The State Board of Medical Examiners met in Harrisburg on April 3, to arrange for the examination to be held in Philadelphia and Pittsburg, June 26 to 29. The questions will be prepared and not given out until the day of examination, and will not be printed. Dr. Henry Beates of Philadelphia was re-elected president, and Dr. W. S. Foster of Pittsburg, secretary. The new members of the Board are Drs. McConnell and Lindsay.

Philadelphia.

Dr. Lambert Ott has been re-elected president of the Twenty-ninth Sectional School Board, for the ensuing year.

At the meeting of the Geographical Society, held here April 4, Dr. Edmund W. Holmes delivered an address on "The Briton and the Boer."

A bequest of $1300, from Nicholas Ost, has been divided between St. Joseph's and St. Mary's hospitals and other charitable institutions.

Dr. M. Howard Fussell delivered the principal address at the meeting of the James Tyson Medical Society, on the subject of "The Manner of Acquiring and Conducting a Medical Practice."

The new Children's Hospital of Germantown will be opened for the receiving of patients at an early date, sufficient funds having been raised to establish one ward, and a dispensary.

The Board of Health has passed a resolution to the effect that hereafter all cases of so-called membranous croup shall be reported and recorded as cases of diphtheria.

Dr. Moses Behrens, a former resident physician of the Jewish Hospital, has been appointed a resident physician at the Philadelphia Hospital, and Dr. Ridpath, also a resident of the Jewish will accept a similar position at the Medico-Chirurgical Hospital.

Colonel J. Lewis Good, chief of the Bureau of Health, is making an effort to have all cases of tuberculosis reported to his department, doubtless for the purposes of giving proper instruction in regard to preventing its spread among members of the families in which the disease exists.

At a recent meeting of the Board of Health, a communication was received from William J. Buchanan, Director-General of the Pan-American Exposition, to be held at Buffalo, N. Y., next year. It requested that the city make an exhibit of sanitary measures and appliances, in the form of photographs or in other convenient shape for demonstration.

A reorganization in the teaching faculty of the University of Pennsylvania is to be effected so there will be one professor of surgery and two of clinical surgery. As heretofore arranged the professorships of clinical surgery and the John Rhea Barton Professorship of Surgery have been held by Dr. John Ashhurst, who recently resigned on account of ill-health.

Several changes have recently been made in the teaching faculty of the Jefferson Medical College: Dr. F. X. Dercum, who for several years held the chair of clinical professor of diseases of the nervous system, has been elected professor of neurology; and Dr. J. Chalmers DaCosta, who held the chair of clinical professor of surgery, has been elected professor of principles of surgery and of clinical surgery.

MORTALITY STATISTICS.

During the past year the number of deaths exclusive of still and premature births amounted to 23,796, an increase of 6 over the previous year. The number of births was 28,441, a decrease of 649 over that for 1898, or a birth-rate of 1 to each 44 living persons. The death-rate in 1899 was 18.78 per 100, or one death to each 52.23 living persons. The death-rate for 1898 was 19.18 per 1000. During the year 4161 cases of diphtheria were reported, an excess of 7 over the previous year. In addition there were 230 cases of membranous croup, as compared with 260 in 1898. There were 2281 cases of scarlet fever, an increase of 381 over the previous year; 142 cases of smallpox, and 251 cases of cerebrospinal meningitis. The following represents the death-rate during the past few years: 1896, 20.17 per 1000; 1897, 18.72; 1898, 19.18; 1899, 18.78. The work of the Municipal Hospital was greater last year than any other year in its history, the number of admissions being 2357, of which number 1970 were discharged, 381 died, and 202 remain in the hospital. At present there is one leper there. The mayor recommends an appropriation for enlarging the institution.

MARYLAND.

DR. R. A. DODSON has been appointed school commissioner of Talbot County, for four years.

MEDICAL LEGISLATION.

The bill exempting graduates of Maryland Colleges from examination by the State Board of Medical Examiners was defeated, so that the present law remains in force, at least for the next two years. This law has worked well, although it might be improved on by more exactly defining who are to be regarded as practitioners of medicine, and exacting of candidates for the license a four years' course of lectures. The legislature has also appropriated $5000 for the aid of the Frederick City Hospital, and has passed the act for the appointment of a sanitary officer for the Thirteenth District of Baltimore County. In addition the following annual appropriations were made for 1901 and 1902—Baltimore institutions except as indicated: Hospital of the Good Samaritan (Women's Medical College), $1500; Lying-In Hospital (College of Physicians and Surgeons), $3000; Nursery and Child's Hospital, Hebrew Hospital, and the Home for Incurables, each $2500; Lying-In Hospital, University of Maryland, $3000; Hospital for the Women of Maryland, $4000; Baltimore City Hospital, $5000; St. Agnes' Hospital (R. C.), $2500; Home and Infirmary of Western Maryland (Cumberland), Maryland General Hospital (Baltimore Medical College), and Maryland University Hospital, each $5000; Hospital for Relief of Crippled and Deformed Children, $2000; Provident Hospital (Colored), $1500; Maryland Lying-In Hospital (Baltimore Medical College), $3000; Hospital for Consumptives, $2000; Peninsular General Hospital (Salisbury, E. S.), $2500; United Charities and Hospital Association (Cambridge, E. S.), $5000; Maryland Hospital for Insane (Spring Grove), $25,000; Springfield Hospital for Insane (Sykesville), $30,000; Maryland Asylum and Training School for Feeble-Minded, $15,500; Maryland Temperance Hospital (Maryland Medical College), $1000; University of Maryland, School of Medicine, $4000; College of Physicians and Surgeons, $4000; Baltimore Medical College, $4000; Johns Hopkins University, $24,000. Thus it will be seen that the three Baltimore Medical Colleges got their appropriations, although not the amounts they wanted ($15,000 each).

Baltimore.

THE COLLEGE of Physicians and Surgeons has 230 matriculants this season.

DR. CHARLES E. DOHME has been appointed manager of the Female House of Refuge.

PERSONAL property valued at $149,465 is distributed by the administration of the estate of the late Dr. J. Pembroke Thom.

DR. EDWARD J. BERNSTEIN will go abroad for six months' study in German hospitals.

DR. WILLIAM OSLER, who has been ill with la grippe, has recovered sufficiently to be up and see a few office patients.

THE WOMEN'S Medical College has resumed its eight months' sessions. About three years ago it cut off the last half-month.

A MEDICAL and surgical dispensary has been established at the southeast corner of Light and Ostend Streets, South Baltimore, by Dr. Clarence E. Downs and others. A fee of 10 cents for each prescription is charged, as at the Johns Hopkins Hospital. There are no hospitals nor other dispensaries in that section of the city. It is hoped to make the institution the nucleus of a hospital.

DR. J. WHITRIDGE WILLIAMS is writing a text-book in obstetrics, to be the successor of the late Lusk's work on the same subject. It will contain much original work and many original illustrations in histology. There is a large field in this department at the Johns Hopkins Hospital, 500 cases having been registered there last year, 60 per cent. in the out-patient department.

CASE OF CRETINISM.

A case of cretinism was shown at the medical clinic of the John Hopkins Hospital, April 4. The patient, the child of Russian parents and born abroad, in a locality where the disease prevails, was a female, aged 6, but appearing to be not over 2. The protuberant abdomen, stunted growth, short extremities, increased subcutaneous tissue, open mouth, enlarged tongue and mental imbecility were all marked. No thyroid gland could be detected.

DISLOCATED CERVICAL VERTEBRAE.

A young man is now at the University of Maryland Hospital suffering from a dislocation of the cervical vertebræ, due to a fall from a fence, striking on his head. He is 18 years old and the accident occurred about the middle of the month. He can not turn his head without turning the entire body, and the chin is drawn down upon the chest. The muscles of the neck are drawn tight like cords and a lump can be felt through the mouth in the back of the throat. A diagnosis was made of dislocation of the fourth and fifth vertebræ. There is also a slight lateral dislocation of these bones, one upon the other. The patient was unable to lie on his back and, owing to this and the impossibility of moving his head, there was difficulty in getting an X-ray photograph. Special apparatus was therefore devised. A framework was built about the head, the patient being in a sitting position, on which the sensitive plate might rest, and front and side views were then taken. The photograph confirmed the previous diagnosis. An attempt to replace the displaced bones under an anesthetic is contemplated, by pressure alone, if possible, and if not, by cutting and removing portions of the vertebræ. The patient is able to walk about.

NEW YORK.

THE ANNUAL report of the health officer of Utica states that there were 978 deaths during the year.

THE ASSEMBLY, April 3, passed the bill appropriating $1,000,000 for the construction of buildings, repairs, and improvements at the state hospitals for the insane.

THE STATE Senate, April 5, passed the bill establishing a hospital to be known as the New York State Hospital for the Care of Crippled and Deformed Children. The sum of $15,000 is appropriated, and the institution is to be under the supervision of five managers appointed by the Governor.

STATE HOSPITAL FOR CONSUMPTIVES.

The bill to establish a state hospital in the Adirondacks for the care of persons in the incipient stage of pulmonary tuberculosis has had a rather hard time in the legislature. The bill called for an appropriation of $150,000. Acting under the pressure of an emergency message from the governor, this measure, known as the Davis-Hill bill, was finally passed by both houses, but not until the blil had been amended to reduce the appropriation from $150,000 to $50,000.

THE GERRY SOCIETY.

As a result of the strong personal fight that Mr. Gerry has made in the legislature against the bills aimed to bring his society under the same jurisdiction of the State Board of Charities as other similar societies, previously noted in these columns, these bills have been defeated. The opposition to them seemed to be purely a personal one, as it was not shared in even by some of Mr. Gerry's own trustees, or by officers presiding over almost identical societies in other parts of the state. Governor Roosevelt sent in an emergency message concerning these bills during the closing days of the session, but the opposition managed to raise some technical point by which it became necessary to amend and reprint the bill. As this could not be done before the adjournment of the legislature the matter went by default.

"CHRISTIAN SCIENCE" ABSURDITIES.

At a lecture delivered at the Broadway Tabernacle, before the class for the discussion of present day problems, William A. Purrington, a lawyer, recently laid bare the sophistries and absurdities of "Christian Science" and faith healing. In doing so, he indulged very little in personal comment, but selected his arguments from a consideration of the various statements made by Mrs. Eddy and others high in her "church." He characterized this so-called faith as a product "[illegible] ora irreverence, vanity, vulgarity, inconsequence, [illegible] greed," and asserted that "Christian Sci[illegible] tuous assertion that in 1866 God revealed to a chronic, hysterical invalid certain truths that for centuries He had hidden from priests and scholars. Like the discoverer of Mormonism, she has a body of apostles, called the Board of Lectureship of the First Church of Christ, Scientist. The lecturer declared that "The cause of the growth of 'Christian Science' lies in the false pretense of the Eddyites to a peculiar divine power of healing all manner of human infirmity." It is well-settled law, however, that the individual's right to believe does not imply a right to manifest bizarre beliefs in acts injurious to the physical and moral welfare of others.

NEW JERSEY.

On April 4, ninety-two of the insane patients from the lunatic asylum at Trenton were removed to the new home at Bridgeton.

The annual report of the directors of St. Michael's Hospital, Newark, shows that 10,294 patients were treated during the year.

The Board of Directors of Muhlenberg Hospital, Plainfield, are planning for the removal of the institution to a more healthful and less noisy part of the town, and have asked for $13,000 for the purchase of a site in the suburbs, on which to erect a modern building.

OHIO.

The dedication and opening of the Chas. S. Gray Deaconess Hospital, Ironton, took place April 5.

O. C. Barber, president of the Diamond Match Company, has offered to give to the Akron City Hospital $100,000 on condition that the present indebtedness of $15,000 be liquidated.

In order to increase the efficiency of the Cleveland City Hospital an ordinance is to be introduced in the City Council providing for a chief of staff among the house physicians. He is to receive a salary not to exceed $500 a year and his board.

Cincinnati.

Dr. J. J. Bruar, who has returned from a two-years sojourn in the Klondike, has been re-elected assistant health officer, vice Dr. Morris May, resigned.

At the monthly meeting of the Ohio Commandery of the Loyal Legion, April 4, Dr. A. B. Isham read a paper entitled "Cavalry Operations in the Army of the Potomac."

At the meeting of the Board of Directors of the Natural History Society, April 3, Dr. M. H. Fletcher was elected president; Dr. Arch. I. Carson, secretary; Drs. F. W. Langdon and A. J. Woodward, members of the executive board.

Dr. J. T. Whittaker, professor of theory and practice at the Ohio Medical College, who has been a patient of the Good Samaritan Hospital for the past few months, has so far recovered as to be able to be moved to his home in Clifton.

Dr. P. S. Conner, professor of surgery at the Ohio Medical College, on April 3 gave a lecture before the Mathesis Club, on "Medical Men and Medical Teachers in Cincinnati Prior to 1850." He spoke of the medical schools that were in existence at that time, and mentioned many physicians whose reputations were more than local.

The committee on health, of the general council, has been empowered to build an addition to the branch hospital on the Lexington Pike, to provide for patients suffering from contagious diseases. The building will cost about $800.

The report of the superintendent of the City Infirmary, for the month of March, shows that there were 906 inmates in the institution on April 1. There were 22 admitted during March; 14 died and 20 were discharged.

Toledo.

Dr. W. G. Cooper has resigned the position of second assistant superintendent of the Toledo State Hospital, located in this city, and has been succeeded by Dr. George R. Love. Dr. Nelson H. Young has recently been appointed a member of the medical staff.

A number of Toledo physicians will visit England, Berlin and the Paris Exposition this summer. Dr. Christian Storz will sail on the Hamburg-American steamer *Batavia*, May 5; Drs. James C. Reinhart, William H. Fisher and M. M. Hixon on the North German Lloyd *Kaiser Wilhelm der Grosse*, May 8, and Dr. Charles P. Wagar on the Hamburg-American liner *Deutschland*, June 26.

ILLINOIS.

The new Galesburg sanitarium was formally opened April 6.

The Western Hospital for the Insane, Watertown, was slightly damaged by fire, April 6.

Dr. Walter Ryan has been appointed consulting surgeon to the Wabash Hospital, Springfield.

Chicago.

Dr. Rudolph W. Holmes underwent an operation for appendicitis last week.

By the will of the late Albert G. Cone, the Presbyterian Hospital will receive $135,000, and the Chicago Home for Incurables $50,000.

A concert for the benefit of the Passavant Memorial Hospital, April 3, netted the institution $1500.

The donations for the proposed hospital for consumptives, under the auspices of the Sisters of St. Elizabeth's Hospital, aggregate $17,147.

The finance committee of the City Council has taken favorable action on the proposed appropriation of $2000 for an emergency hospital in the downtown district, as advocated by the Medical Woman's Club.

The mortality of the past week was 572, or 98 less than that of the preceding week. The principal causes of death, in the order of greatest reduction, are pneumonia, consumption, cancer, diphtheria, Bright's disease and bronchitis.

The committee recently appointed to assist in the work of raising funds for enlarging and improving the Presbyterian Hospital has issued a circular requesting subscriptions. Following are the objects for which the funds are desired: A new electric-light plant, $6000; for the ladies' furnishing fund, $3000; for sixteen additional beds, $1000; for a steam sterilizer, $1000; to meet the deficit, $3500.

DISTRICT OF COLUMBIA.

The report of the health officer for the past week shows the total number of deaths to have been 136, of which number 81 were white and 55 were colored; 39 cases of diphtheria, 59 of scarlet fever, and 1 of smallpox were under treatment.

Dr. James S. Haugh has resigned his position in the local health department, and accepted an appointment in the United States Marine-Hospital Service.

The report for March shows that in the Central Dispensary and Emergency Hospital new patients numbered 1343; visits, 2279; prescriptions compounded, 3322; emergency cases, 266; ambulance calls, 78; hospital ward cases, 46; deaths, 6; autopsies, 3.

Representative Little of Arkansas has introduced a bill appropriating $300,000 for a soldier's hospital at Hot Springs, Ark., in which shall be admitted soldiers of all the wars in the United States, including the Spanish-American War, who desire treatment of the peculiar diseases for which the waters of the springs are efficacious.

WOMAN'S CLINIC.

The board of directors and the attending staff of the Woman's Clinic are indebted to Senator Gallinger for the introduction of an item of $2000 in the Senate appropriation bill for maintenance of their clinic. The hospital does excellent work and provides for the treatment of women and children by women physicians. The institution has been in operation since 1891, and up to this year has been self-sustaining, but the work has grown so extensively and the hospital has become so popular that in order to meet the demands on it, the above appropriation has been asked. The women physicians constituting the attending staff have demonstrated their ability to meet every medical emergency and have proved themselves the peers of any medical staff in the country. It behooves all doctors to assist them in obtaining the appropriations asked, and further aiding the growth of their hospital.

UNITED STATES PHARMACOPEIAL CONVENTION OF 1900.

The eighth decennial convention for the revision of the United States Pharmacopeia will be held in this city on May 2. The following physicians are members of the committee of reception and entertainment: Drs. Acker, Atkinson, Ballock, Barnes, Barker, Barton, Bishop, Car, Chappell, Clayton, Collins, Dufour, J. Elliott, L. Elliott, Franzoni, Glazebrook, Harding, Hickling, Holden, Johnson, Kelley, Kober, Kurtz, Leech, Luce, Lynch, Lochboehler, McGee, Mayfield, Morgan, Reisinger, Robbins and Jno. E. Bracket, treasurer. The committee invites $5 subscriptions from those interested in the project, to defray the expense of entertaining the visiting delegates.

MINNESOTA.

An examination was held by the State Board of Medical Examiners, in Minneapolis, April 3, of fifty-six applicants for license to practice in the State.

At a recent meeting in St. Paul, the Ramsay County Medical Society passed a resolution excluding information from the lay press, except at the discretion of the president of the Society.

The annual report of the superintendent of the St. Paul City and County Hospital shows that 1667 patients were treated during the year. A new building for contagious diseases and the establishment of a cooking school in connection with the training school for nurses is recommended.

MICHIGAN.

University Hospital, Ann Arbor, was burglarized to the extent of $200, April 6.

The proceeds of a recent charity ball, amounting to $1000, will be used to equip the new surgical ward of the Saginaw Hospital.

A training school for nurses will be introduced into St. Joseph's Hospital Sanitarium, Detroit, as soon as proper arrangements can be made.

HEALTH OF THE STATE.

Including reports by regular observers and others, consumption was reported present in March at 156 places; measles at 203; scarlet fever at 123; typhoid fever at 58; diphtheria at 40; whooping-cough at 33; smallpox at 13, and cerebrospinal meningitis at 13 places. Reports from all sources show consumption reported present at 24 places less; measles at 22 more; scarlet fever at 6 less; typhoid fever at 6 more; diphtheria at 18 less; whooping-cough at 3 less; smallpox at 3 more, and cerebrospinal meningitis at 1 place more, than in the preceding month.

WISCONSIN.

The annual commencement of the Milwaukee medical college was held April 3. Thirty-two students received their degrees.

DELAWARE.

The following named were recently elected officers of the State Board of Health of Delaware: E. W. Cooper, Camden, president; Alexander Lowber, Wilmington, secretary, and Albert Robin, Newark, state bacteriologist.

MASSACHUSETTS.

A new home for consumptives, Boston, for which $150,000 is to be appropriated, has been favorably considered by the committee on public charitable institutions.

GEORGIA.

Atlanta.

The Grady Hospital Training School for Nurses will hold its first commencement next month. This training school was organized three years ago, and the present class will be the first to receive diplomas.

The Atlanta College of Physicians and Surgeons held its annual commencement on April 3, with a graduating class numbering seventy-one. The annual address was delivered by Rev. Charles Downman, President of Emory College. The college will probably start on its four years' course at the beginning of the next session.

QUACKS MUST GO.

The medical profession of the city has taken actively in hand the matter of ridding the city of men who are practicing illegally or are practicing with bogus diplomas. Five true bills have been found by the grand jury, and the men will be tried at an early date. Atlanta has long been infested with the quack and itinerant medico, and this war will be waged for the extermination of all such.

VIRGINIA.

The contract for the main building of the new hospital at the University of Virginia has been awarded, and the work of construction will begin at once, the excavation for the foundations having already been made. It will have one of the finest clinical amphitheaters in America. The central building will face East Range and the corridors will parallel the arcade of the row of dormitories.

TENNESSEE.

The annual meeting of the State Board of Medical Examiners was held in Nashville, April 3.

Commencement exercises of the Tennessee Medical College, Knoxville, were held March 31. Twenty-eight students were graduated.

The monthly meeting of the Chattanooga Board of Health was held March 30. It was reported that there have been 134 cases of smallpox in the city since the outbreak of the disease, January 1. During March 34 cases were reported, of which number 5 remain in the isolation hospital.

The commencement exercises of the Medical Department of Vanderbilt University, Nashville, were held April 4. There were 47 graduates.

TEXAS.

Dr. C. F. Norton, El Paso, has been appointed state quarantine officer, to succeed the late Dr. W. M. Yandell.

As a precautionary measure the governor has issued a proclamation quarantining against yellow fever and prescribing rules of inspection to be maintained by the quarantine officer.

KANSAS.

Dr. W. B. Swan, secretary of the State Board of Health, has issued a bulletin showing that smallpox was reported from thirty-five different localities during March, with a total of 456 cases and 5 deaths. The disease appeared in thirteen new places during the month, and there was great difficulty in getting it under control on account of the insufficient authority of the county boards of health.

A Humboldt carpenter attempted to open a tar barrel, striking one of the heads a heavy blow with an ax. An explosion followed, supposed to be from accumulated gas, and a piece of the barrel head was driven into his forehead, injuring him seriously, probably fatally.

MISSOURI.

The State Board of Health held its quarterly meeting, April 4. Examinations for license to practice were given and delegates were elected to represent the Board at the convention of the National Association of Health Boards.

The People's Auxiliary Hospital, St. Louis, was formally opened April 2. The institution was established by charitable negroes for the benefit of their race.

At the April meeting, in St. Louis, of the Tri-State (Iowa, Missouri and Illinois) Medical Society, there was a very small attendance. The local profession in general is arriving at the conclusion that proper loyalty to the state societies and the American Medical Association precludes attendance on the many other supernumerary spring medical meetings.

The St. Louis medical profession is greatly aroused over the question of a new city hospital. Mass meetings have been held and the city authorities have had evid [illegible] t doct [illegible] can stand together when vital matters are i [illegible]

CANADA.

No new cases of smallpox have occurr [illegible] weeks in New Brunswick, and all the [illegible] under control.

The results in the medical examinations at Queen's University, Kingston, have been posted. The graduates number twenty-one.

The Ontario Government has set apart $4000 to assist municipalities in the erection of district sanatoria, throughout the province.

Smallpox still continues its ravages in the lower part of the Province of Quebec. Several new cases are reported from Paspebiac, Banaventure County, but they are all of a mild type.

Montreal is contemplating the erection of a hospital for consumptives. One of the locations is the top of Mount Royal, but objection is offered to locating such an institution so near the city.

The medical health officer of Toronto has been granted three weeks' leave of absence, which he will spend in New York. On his return he will prepare plans for a new smallpox hospital, to be situated on the northeastern confines of the city.

Mrs. Fleming, who has been matron at the Civic Hospital, Montreal, for the past three years and a half, left last week for Cape Nome, Alaska, where she will assume the management of the large hospital being erected in that place.

Dr. J. H. Elliott, medical superintendent of the Gravenhurst Sanatorium, now in England, has received an appointment on the expedition dispatched to the west coast of Africa by the Liverpool School of Tropical Diseases, to study malaria.

There were 248 patients admitted to the Montreal General Hospital during March, and 279 discharged. The daily average has been 176, the largest on any one day being 190. There were 24 deaths during the month, 4165 minor operations and consultations in the out-door department, and 94 ambulance calls.

At the Protestant Hospital, Ottawa, on February 28, there were 92 patients in residence. During the month there were 106 admittances, making a total of 198. There were 86 discharged cured, 23 relieved and 1 died; 79 remained in residence on April 1. The hospital was never so largely used as at the present time.

The following, of St. John, N. B., have been appointed on the staff of the new home for incurables: Drs. Bayard, Travers, Berryman, Christie, P. R. Inches, W. G. Addy, Chas. Holden, W. F. Roberts, F. W. Daniel, Murray Maclaren, T. D. Walker, S. S. Skinner, J. Morrison, Nelson and W. L. Ellis.

Forty patients have been admitted to the Protestant Hospital for Insane, Verdun, Que., during the past quarter, and 25 discharged. The deaths numbered 12. The following bequests have been received during the quarter: From the estate of the late Miss Sawtell, $900; estate of E. K. Greene, $1000; estate of A. McIntyre, $450; estate of J. C. Wilson, $900.

Sir William Macdonald, Montreal, on Saturday last wrote his cheque for $200,000 as a gift to the chemistry department of McGill University. A special provision of the donation is that it will provide for ten additional assistants to be chosen from the best available talent graduating from the practical chemistry course; it also especially provides that the teaching of chemistry will be made more available for the teaching faculty of medicine.

THE MACKAY BILL.

During the past week the most important feature in the medical imbroglio of Trinity and Toronto has been the participation of the senate of Toronto University in the fight and the speech of Dr. MacKay in the legislature on moving the second reading of his bill, noted at length in recent issues of The Journal. The provincial university authorities have taken a strong ground in the matter and have interviewed the government in order to press upon them, as they think, the advisability of allowing affairs to continue as they at present exist. It is pointed out on behalf of the continuance of the present medical department of the University, as at present constituted, that the students of Trinity have equal right with the other students, in that, if they so elect, they may register as occasional students with the Toronto faculty, and so avail themselves of the privileges of the provincial university. Of course it is a very likely thing that any teaching body like Trinity will advise her students to take their lectures from a rival medical faculty, and be accorded no share in the examination of those students. In his speech in the legislature, Dr. Mackay made out a strong plea for his bill. That is generally conceded. The Hon. the Minister of Education, Mr. Harcourt, opposed it and championed the cause of the provincial university and the medical department. Altogether, it would seem that there is an effort being put forward to becloud the issue, and not to have it fought out on its just merits, as side issues are being continually hauled in to do service, when they are very far removed from the thoughts of the adherents of the measure. An adjournment of the debate was moved by the Premier, the Hon. Mr. Ross, the ex-minister of education, and it will probably be up for discussion again the beginning of the week. No doubt it will be referred to the private bills' committee, where each will have a better opportunity of explaining their reasons *pro* and *con*, for the legislation. This would be a fair and just procedure, as if any good can be accomplished that will redound to the advantage of the provincial university, and at the same time be a means of forever redressing the grievances against past legislation of the university, it ought in all fairness be accorded to all parties in the present campaign.

GYNECOLOGY AMONG THE INSANE.

In the annual report of the Inspector of Lunatic and Idiot Asylums for Ontario, for 1899, an interesting part is that relating to the gynecologic surgery in the female insane in the asylum at London, Ont., the avowed exponent of this work in Canada. It is now some five years since this work was first introduced into that institution, where it has been prosecuted systematically ever since. Engendered with some doubt and carried on in a somewhat tentative character, it has there come to be looked on as a necessary branch in the treatment of the female insane. During the past year, 40 patients have been operated on. Of these, 14 have recovered, 14 are improved, 1 died, and so far 11 remain unimproved, though it is stated that several of these latter have but just recently been submitted to operations, and there seems to be no doubt that several will either improve or recover completely. A summary of the work of the past five years, which embraces all the gynecologic work performed since its inception, shows that 217 patients have been examined, in 185 of whom organic disease of some one or more of the pelvic organs was found, thus leaving 32 of the number examined absolutely free from disease. Of these 185 patients, 171 have been operated upon, leaving 9 others to be attended to, while there are 5 the subjects of organic disease, considered unsuitable for operation. Of the 171 operated on, the pathologic conditions present (several often in one case) were 17 cases of dysmenorrhea or menorrhagia; 80 with disease of the endometrium; 90, subinvolution of uterus; 35, hypertrophied cervices; 44, lacerated cervices; 27, cystic cervices; 5, polypi of cervix; 14, uterine fibroid; 1, epithelioma of cervix; 1, sarcoma of uterus; 55, retroversion of uterus; 6, complete procidentia of uterus; 31, ovarian tumor, often with disease of the tubes; in 35 there were perineal injuries; in 1, rectovaginal fistula; in 1, ischiorectal fistula. This gives a total of 444 diseased conditions in 171 patients. The operations performed, often several in one case, were as follows: Curettage and divulsion, 132 times; operations on cervix, 53; suspension of displaced uterus, 50; ovariotomy, 22; hysterectomy, 21; perineorrhaphy, 26; laparotomy for tubercular peritonitis, 2; operation for hematoma of ovarian ligament, 1; myomectomy, 2—a total of 309 operations. As regards the after mental health, 70 patients recovered from their insanity; in 43 others there has been improvement, often very marked in the general health; in 54 there has been no improvement in the mental health. Thus it will be seen that 113 of the 171 who survived the operation (four died as a result of it) either recovered their mental health or had it improved to a considerable extent. A further interesting part of the report is the average recovery rate, including cases improved, in the female halls of the asylum during the four years, 1892-1895, as with that during the four years from 1896-1899. In the former period, the rate calculated on the whole number under treatment each year, was 4 per cent.; whilst for the four years after the operative work had become a factor, it rose to 5.55 per cent. Dr. A. T. Hobbs is the assistant, in the asylum, who carries on this work.

Medical London.

SOUTH AFRICAN DISEASES.

Ever since the Transvaal War broke out there has been keen interest here as to the climate and diseases of South Africa, and the recent meetings of the Committee on Geographical Pathology, at the London Polyclinic, have been chiefly occupied with these subjects. Dr. Alfred Hillier, who was for a number of years in active practice in the Transvaal and Orange Free State, and at one time in partnership with Dr. Jameson of the "Raid" notoriety, opened the discussion with a description of the climate and principal diseases. He brought out most clearly that—as we are rapidly learning of late years, all over the world—the "unhealthiness" of a climate depends not on temperature or moisture but on the degree of prevalence of certain diseases which might almost be reduced to two, malaria and typhoid. As the high central tableland which forms the greater part of the country is almost exempt from malaria, the only serious and at all widely prevalent diseases are those imported by the settlers themselves—typhoid and diphtheria. This has been strikingly confirmed by the experience of the troops so far, as nearly 60 per cent. of their death-rate by disease has been caused by typhoid, 800 cases of the fever being found in Ladysmith alone, when the siege was raised. That the whole of it is due to defective sanitation and polluted water-supply is shown by the fact that it is almost exclusively a disease of towns and villages, cases on isolated farms and in the open country generally being almost unknown. So the Afrikander has to a large extent his physical fate in his own hands. This is especially true in view of the fact that tuberculosis as an indigenous disease is practically unknown. Dr. Hillier has never met with a case in a Boer or a native Afrikander, and with only a very small number which originated in South Africa in European settlers; all of the latter were believed to be due to direct contagion from consumptives who had gone there for the climate-cure.

DIPHTHERIA AND ELEVATION.

An interesting peculiarity is the apparent effect of elevation on diphtheria, Dr. Hillier stating that he has never met with the disease at an elevation above 3000 feet. In Kimberly, for instance, which is slightly below this elevation, the disease is frequent, while at Johannesburg, with an elevation of over 4000 feet, it is almost unheard of. In several years' active practice in the latter place, Dr. Hillier had not met a case.

DISADVANTAGES OF SOUTH AFRICAN CLIMATE.

Like everything mundane, the climate, though clear, bracing and healthful to a degree, has its drawbacks. It is liable to fearful dust storms which are frequently followed by acute pneumonias, apparently due to the mechanical irritation of the quantities of fine, flour-like, red dust inhaled. A similar effect may also be produced on the bowels, by the more than "peck of dust" swallowed on food, every article of which, no matter how protected, becomes sifted over with a thick layer. This gives rise to a "dust dysentery" of most irritating and weakening type, though fortunately usually self-limited and free from serious complications.

Another drawback, very real to an unfortunate few, is that washing of the face and neck must be strictly limited to the absolutely necessary. Otherwise most unpleasant reddening and fissuring of the skin leading to chronic eczematous conditions will develop. Water can no longer be used on the skin *ad libitum;* indeed, in most cases, the general rule has to be adopted of never washing between sunrise and sunset, and this has become an accepted habit with most colonials of experience, though it took years to make an Englishman believe that cleanliness could ever be otherwise than a virtue and a benefit. Indeed, the Boer name for an Englishman, *rooinek* or "red neck," was given because he was always washing himself and had a raw, red and itching neck and face in consequence, a habit from which the Boer himself found not the slightest difficulty in refraining.

TEETH OF SOLDIERS.

The teeth of the recruit have again been alarming the country. This time it is on the naval side, where in answer to a member's question, Mr. Goschen, the present "Ruler of the Queen's Navy," stated that probably as many as 25 per cent. of the rejections were on account of defective teeth. Of army recruits only 7.7 per cent. of those rejected were refused on this ground, and it was explained that the conditions of service afloat—presumably the long cruises and harder, drier food—made a higher standard of dental perfection necessary in sailors. If this statement leads to an adoption of a proposal already before the House for the appointment of official dentists to every public school, it will be an incalculable benefit to the country. The condition of the teeth of the English working classes is decidedly poor, worse than anything to be found in that supposed home of early dental decay, America, and goes far to shake our faith in the venerable superstition that the human tooth is degenerating under civilization and modern diets.

ARMY MEDICAL DEPARTMENT.

The medical department of the army came in for its first public discussion in Parliament this week, and the result was a positive ovation. A prominent member declared that it had been the success of the war, and the under secretary for war, Mr. Wyndham, one of the most prominent personalities in England at present and the official representative of the war office in the House, "could not pay too high a tribute to the fortitude, courage and efficiency which has been displayed by the medical officers. They were not exalted by the joy and intoxication of battle; they were sustained by their devotion to suffering humanity alone and this rendered their services all the more heroic." This ought to make it plain even to the intelligence of a general that, if he persists much longer in his pig-headed and supercilious refusal to recommend more medical men for the Victoria Cross, he will have to reckon with the war office as well as with an already indignant public.

CANDIDACY OF PROF. WM. OSLER.

The candidacy of Professor Osler, of Baltimore, Md., for the chair of medicine in the University of Edinburgh, left vacant by the death of Sir T. Grainger Stewart, is looked on with universal favor here. It is believed that owing to the nearly equal division of local support between Dr. Byron Bramwell and Dr. John Wyllie, and consequent high feeling, the chances of a selection of an outsider are extremely good, and of outsiders Professor Osler is far the likeliest choice. To be elected a second time to a foreign chair would be a high honor indeed, and while America would deeply regret his loss personally, yet the compliment paid to the standing of the medical profession through one of its leading representatives would go far to balance this. It would also be a most graceful demonstration of the practical cosmopolitanism of science and the unity of the English-speaking races all over the world. [Dr. Osler's declination of this call was noted in last week's JOURNAL, p. 885. ED.]

BOER THERAPEUTICS.

The closer we come to our cousin, the Boer, the more extraordinary survival, brave fighting man as he has shown himself, does he appear to be, not merely of medieval, but positively marsupial times. The rooted distrust of European physicians and their treatment, reported by one correspondent after another as felt by the Boer, which seemed at first almost incredible, begins to be comprehensible when we learn something of his own preference in the way of household remedies. His prime favorites, according to a writer in the *Chemist and Druggist*, are purgatives, the more energetic the better, and one of these is administered as a routine first step in every case of illness. Next on his list comes such cheerful vestigia as *hcasjepis*, the secretion of the scent-glands of the Cape Hyrax, or so-called "rock rabbit," and *klipsweat* or "rock sweat," a curious secretion which accumulates in the crevices of certain rocks and was originally believed to be the dung of bats, but is now regarded as the secretion of certain insects. A species of Indian hemp, the wax of the Cape myrtle and a choice selection of the crudest of Harlem oils, "crown essences," and black pills complete the equipment of the *Huis Apoteck* or family medicine chest. One deliciously primitive in[illegible] is related from the writer's own exp[illegible]ho, having run the gamut of the medi[illegible]f, was wrapped in the warm skin of a

COMPLIMENT TO MEDICAL PROFESSION.

A graceful compliment has been paid to the profession by the election of Dr. Wm. C. Church, president of the Royal College of Physicians, to the membership of the "Athenæum" Club on the ground of "distinguished scientific attainments." The Athenæum is one of the most distinguished and exclusive clubs in London, the "celebrities" club par excellence, and admission to it is considered one of the blue-ribbons of intellectual London. Lord Lister is already a member.

DEATH-RATE OF TROOPS.

The low death-rate from disease among the British troops in South Africa has been widely commented on as one of the triumphs of modern sanitation. Of the total deaths to date barely over one-fourth have been due to disease and about one-half of these to typhoid. In view of the fact that typhoid is epidemic in nearly all the towns of Natal and Cape Colony used as camp sites, its prevalence has been remarkably limited, sufficiently so to distinctly support the claim that the anti-typhoid inoculations so widely carried out on the troops by Professor Wright of Netley and the army medical officers are giving positive results. Nearly 6 per cent. of the troops sent out from England are said to have voluntarily submitted to inoculation, and the results from Professor Wright's 3000 inoculations in the army of occupation in India last year have certainly given most encouraging results. Ludicrously enough the wide-spread vaccinations against typhoid among the troops sent out were denounced by the "antis" as the cause of the disasters to the British arms at Stormburg, Magersfontein, etc., by dulling the senses and depressing the vitality of the soldiers so that they walked right into the traps laid for them, like men dazed.

MALARIA INVESTIGATIONS.

The public mind here is getting thoroughly stirred up to the importance of the antimalarial movement headed by Manson and Ross. Especially is this true since the publication of Major Ross' letter showing that in India alone 5,000,000 deaths per annum occur from fever," chiefly malarial and that of the 178,000 men composing the Indian army, 75,800 or 45 per cent. were admitted to hospitals for malaria during the year 1899. The new malaria expedition which has just started for Nigeria, from the Liverpool School of Tropical Medicine, will be watched with the keenest interest, as will also the experiments of the London school in the Roman Campagna during the coming summer. The idea of having infected mosquitoes brought home to bite devoted English experimenters who have volunteered for the service was not only sound science but also a finely dramatic object-lesson to the popular mind and has "caught on" immensely. Dr. Manson's gift of terse and vivid epigram is also of great service in impressing the facts of the situation on the lay mind. His characterization of the sanitary work of tropical medicine against malaria, typhoid and the plague as "a campaign of the mosquito-net, the tea-kettle and the rat-trap" has spread far and wide, and this recent pithy sentence that "quinin kills the malaria parasite as surely as arsenic does a rat" is scarcely less happy.

PIGMENTS AND THE SKIN.

Some most interesting results have recently been reported at the London Polyclinic, by Dr. Robert Bowles, in reference to the effects of pigments in preventing sunburn, cracking and other exposure-effects on the skin. He has found that in many cases of sensitive skins which burned, chapped and became even eczematous on exposure, and were not relieved in the slightest by ordinary salves, lotions and creams, the addition of a small amount of pigment to the protective application would check the irritation at once and permit exposure with impunity. This was most strikingly seen on the glaciers and snow-flats of the Alps, where tourists are frightfully annoyed by sunburn, which can be completely prevented by coating the face lightly with a film of any pigmental salve or paste. For convenience, he has generally employed the ordinary grease paints used by actors in "make-up." Other experiments have been varied and controlled by painting the face in patches, leaving one side smeared but not colored, etc., and invariably with the same result, i. e.. the pigment covered areas escaped all unpleasant effects while the uncovered patches were severely burned. The color of the pigment seemed to matter little, although red-browns and browns were extremely effective. The hint has been taken by dermatologists in pityriasis, summer prurigo, summer eczema, and the various forms of eruptions which are worse in hot weather, and with the most gratifying results. Mr. Malcolm Morris has recently reported (*The Polyclinic*, January, 1900) the great relief afforded in cases of summer prurigo, by the simple addition of bole Armenian, a vegetable pigment used by actors, to salves which before had given little or no benefit. Contrary to the general impression, it is not the heat, but the chemical action of sunlight which so intensely irritates the skin, and this explains the torturing effects of reflected light from snow or ice on both skin and conjunctiva, and the relief given by colored glasses, etc. It also opens up a most interesting question as to the precise value of pigment in the human epidemics, especially in the races inhabiting the tropics, and also throws new light on the custom of smearing the skin with pigmented oils and greases, colored clays, etc., to which so many savage tribes are addicted, and which formerly seemed so utterly irrational.

NEED OF HOSPITAL REFORM.

An effective little illustration of the need of hospital reform has just been furnished in the police courts, by an action brought by one hospital patient against another. The complainant alleged that he had been robbed, in the Charity Cross Hospital, of a gold watch and chain, a silver match box, a gold ring and a diamond scarf-pin, altogether valued at $200. No mention is made of a check book or coupons, but one can not help wondering what were the circumstances which justified the admission of a patient with all this ornamentation in plain view into the charity wards. One can imagine many emergencies in which really destitute and deserving patients who were still well-dressed might be admitted to the wards, but such finery ought surely to be left at home, if only for appearances, to say nothing of the temptation placed before poorer patients.

RETURN OF INVALIDED SOLDIERS.

Another transport has just landed its contingent of invalided soldiers at Southampton, with the same cheering record, which has grown so familiar, that out of nearly 180 patients there are only seven "cot cases," the remainder having made rapid progress toward recovery during the voyage. Owing to this high recovery rate on the home voyages the military hospitals have never yet been overcrowded, although the actual accommodations in existence when the war broke out were regarded as entirely inadequate, and hospitals all over London were approached as to how many beds they could spare for soldiers. Once more the utter unpreparedness of the war office has escaped, by sheer luck, the disaster which it invited, even the distance from the scene of war and the slowness of the transports working in its favor. It would not accept nor even acknowledge with thanks the stream of offers of beds from local hospitals, sanatoria, and even private houses, which poured in from all over the country, and now even its stupidity is going to be counted unto it for righteousness.

Correspondence.

The Journal and Ethical Preparations.

New York City, April 3, 1900.

To the Editor: Having noticed, in an editorial in The Journal of March 31, your determination to somewhat curtail the number and character of advertisements in The Journal it occurred to me that you were entitled to a word of encouragement, congratulations and best wishes from the advertisers of legitimate remedies, as well as from the members of the Association and the profession generally. That The Journal should refuse further to encourage or give countenance to the nostrum is as it should be. Representing the most august body of medical men in the United States, voicing the sentiments and scientific thought of these men, who should head the list of individuals and organized societies in all that appertains to ethics or good morals; alive to the protection of its members and the profession generally, as well as to humanity, it should be first to show its earnestness in all that appertains to their welfare. As the conservators of public health, the associations and physicians generally have a broad humanitarian duty toward those who look to them to guard their interests. In this sense the physician is his brother's keeper. If you protect the members of the associations, through them you protect the uninformed public. So long as there is a suffering humanity there will be those who prey on their credulity for money. Any educated physician must realize the worthlessness, nay the positive harmfulness of these secret products, made usually from their own prescriptions without a knowledge of why they were originally prescribed, compounded by unscientific men, and offered for all manner of troubles, when if the truth was known the combination or its individual parts, if not actually contraindicated, are useless in most instances.

Now what character of products should be acceptable to the advertising pages of a standard medical journal? There should be but two classes: 1. Definite chemical products; those with an identity which can be expressed in symbols or terms according to chemical nomenclature. 2. Compatible mixtures whose formulæ are given in the body of the advertisement each time it is printed. The formulæ should give the quantities of each ingredient to a given portion, and be so expressed that it is intelligible to the physician. There should be no occult knowledge necessary to compound such a preparation; no statement that "by a process known only to the manufacturers the preparation can be made as offered by them." Nor should a list of the ingredients furnished without the quantities clearly expressed be sufficient, and when this is given let it show in full. Do not pigeon-hole the formula and notify your readers in an editorial that the formula is in your possession and that it will be sent (privately) to any one interested; while, when it is received, they find that it not only does not give the exact quantity of each ingredient used to a given portion, but that it is expressed so obscurely that the reader is no better informed than before securing it. I believe that there would be less substituting if such a policy were strictly adhered to by all medical journals. The druggist resents the imposition of secrecy which is so often a cloak for fraud, as much or more than does the physician, for it clearly implies his incompetency; besides, the physician will not cease to use these products, but will all the more insist on his prescription being dispensed from those whose identity and character they clearly understand, and in which they have confidence. We will thus secure the co-operation of both the professions, that of medicine as well as of pharmacy.

It must appear that in the end both professions will benefit: legitimate and scientific remedies only will be used, and the public soon become an unconscious factor in bringing about this most desirable end, for when they more clearly realize, as they will (for the public is quick to learn when the proper means are employed), that individual persons and individual complaints require individual treatment, that no stock prescription, however scientifically it may be prepared, will answer for the same disease in different individuals much less answer as a cure for a multitude of complaints, they will seek such remedies and from such people as will secure to them the best results, in the same way as they purchase merchandise.

J. W. Wainwright, M.D.

Proposed Leper Law.

Los Angeles, Cal., March 27, 1900.

To the Editor: In The Journal of March 17, p. 694, you say, in regard to the proposed leper law:

> It is a question whether leprosy, which numbers among its victims only a few hundred at most in this country, is a sufficiently threatening danger to warrant or call for the elaborate and expensive provisions of this bill. . . . Leprosy does not seem to flourish here. New cases that originate among us are rare. . . . If matters are much worse than here assumed, some such measure as the proposed one may be advisable.

While there is no call for excitement or hysterical action in the matter, it does seem to me that the proposed leper law will fill "a long-felt want." Considering the nature of the disease, are not "only a few hundred lepers in this country" a great menace to the health of the country at large?

Were the disease generally prevalent, we should be alive to it and the necessity of provision against it; we should all be more or less familiar with the more common phases of the disease, but, as it is, individuals have no certainty that they shall not come in contact with the disease; get it from some straggler or another that comes their way. It is not so much the danger of an epidemic that we should provide against, as the general liability to contagion in hotels and other public places. An isolated case was reported here last week. Dr. McDougal reports two cases in Lexington, Ohio, and another is reported from Philadelphia, of a leper that came from Barbados through Canada. I could go on indefinitely, stating cases that have come to the notice of physicians here and there throughout the mainland. I consider that it is the duty of the state and national governments to protect citizens from unnecessary exposure to all contagious disease, and it would be time to act if there were only one case of leprosy in the whole United States.

The person or persons to whom this particular leper would be a danger make a special provision imperative, no matter whether the disease spread further or not. This applies, less urgently perhaps, but still it applies, to syphilis and tuberculosis. And some day we shall wonder why we were so long indifferent to wise legislation in the matter. The expenditure of money is nothing compared with the extension of such a disease even to one individual. We think nothing of spending money in other directions; and the protection of our citizens from disease, in other words, medical legislation, is one of our first duties.

As to the spread of leprosy in a temperate zone, learned men differ. Why should not the disease increase here as well as in similar latitudes in Europe? Perhaps the cycle has not reached, but it may come. And if matters may be "much worse" here than we know, surely it is time for us to find out exactly the real condition of affairs in the country.

E. S. Goodhue, M.D.

Association News.

Annual Announcement.

The fifty-first annual session (53d year) of the American Medical Association will be held in Atlantic City, N. J., on Tuesday, Wednesday, Thursday and Friday, June 5, 6, 7 and 8, commencing on Tuesday at 11 a. m.

REGARDING REPRESENTATION.

The delegates shall receive their appointment from permanently organized State medical societies, and such county and district medical societies *as are recognized by their respective State societies*, and from the medical departments of the Army and Navy and the Marine-Hospital Service of the United States.

Each State, county and district medical society entitled to representation shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction or more than half that number; *Provided*, however, that the number of delegates from any particular State, Territory, county, city or town shall not exceed the ratio of one in ten of the resident physicians who are entitled to membership.

PERMANENT MEMBERS.

The permanent members shall consist of all those who have served in the capacity of delegates, and of such other members as may receive the appointment by unanimous vote, and shall continue such so long as they remain in good standing in the body from which they were sent as delegates, and comply with the requirements of the By-Laws of the Association, so long as they shall continue to conform to its regulations, but without the right of voting; and, when not in attendance, they shall be authorized to grant letters of introduction to reputable practitioners of medicine residing in their vicinity, who may wish to participate in the business of the meeting, as provided for members by invitation.

MEMBERS BY APPLICATION.

Members by application shall consist of such members of the State, county and district medical societies entitled to representation in this Association as shall make application in writing to the Treasurer, and accompanying said application with a certificate of good standing, signed by the president and secretary of the society of which they are members, and the amount of the annual subscription fee, $5. They shall have their names upon the roll, and have all the rights and privileges accorded to permanent members, and shall retain their membership upon the same terms.

REGISTRATION AT MEETING.

Each delegate or member, when he registers, is requested to record the name of the Section, if any, that he will attend, and in which he will cast his vote for Section officers.

SECTION OFFICERS.

The Chairman of each Section shall prepare an address on the recent advances in the branches belonging to his Section, including such suggestions in regard to improvements or methods of work as he may regard important, and present on the first day of its annual session the same to the Section over which he presides. The reading of such address not to occupy more than forty minutes.—By-Laws.

PRESENTATION OF PAPERS.

A member desiring to read a paper before a Section should forward the paper or its title and length (not to exceed twenty minutes in reading) to the Secretary of the Section at least one month before the annual meeting at which the paper or report is to be read.

No paper shall be read by title in any Section which is not actually in the hands of the officers of the Section.

No paper shall be placed on record for the consideration of any Section unless an abstract or précis of not less than 50 nor more than 300 words accompanies the title and is placed in the hands of the Chairman or Secretary of the Section at least thirty days before the time of meeting of the Section.—By-Laws.

ORATIONS.

The following annual orations will be delivered: On Medicine, John A. Witherspoon, Nashville; on Surgery, W. L. Rodman, Philadelphia; on State Medicine, Victor C. Vaughan, Ann Arbor.

Chairman Committee of Arrangements, Philip Marvel, Atlantic City, N. J.

PROPOSED AMENDMENTS.

Amendment to the Constitution and By-Laws offered by the Committee on Medical Legislation:

Section 3, Standing Committees.—The committee on legislation shall consist of three members: one of whom shall be a resident of Washington, one of Baltimore and one of Philadelphia. It shall be the duty of this committee to represent before Congress the wishes of this Association, regarding pending medical and sanitary legislation. This committee shall also invite to an annual conference to be held at Washington, one delegate each from the army medical service, the navy medical service, the marine-hospital service and from each State society of legally qualified practitioners of medicine; such conference to consider questions of national medical and sanitary legislation and report to their representative bodies for actions.

In By-Laws, Section 3, Standing Committees, insert after "board of trustees" the words, "committee on legislation," and after the duty of "boards of trustees" the following clause: "The committee on legislation shall report annually to this Association its action during the previous year and shall recommend to the Association such action regarding pending legislation as it shall deem proper.

Amendment to the Code of Ethics offered by Dr. Q. C. Smith, Austin, Texas:

Article 4, Section 9.—Be it

Resolved, That attending physicians are entitled to charge a consultation fee for each consultation, in addition to visit fee, equal in amount to that ordinarily charged in similar cases by consulting physicians residing in the same city, locality or community where the service may be rendered.

OFFICERS OF SECTIONS.

Practice of Medicine—George Dock, Ann Arbor, Mich., Chairman; T. B. Futcher, Baltimore, Secretary.

Surgery and Anatomy—H. O. Walker, Detroit, Mich., Chairman; Ramon Guitéras, New York City, Secretary.

Obstetrics and Diseases of Women—W. E. B. Davis, Birmingham, Ala., Chairman; F. F. Lawrence, Columbus, Ohio, Secretary.

Materia Medica, Pharmacy and Therapeutics—Leon L. Solomon, Louisville, Ky., Chairman; J. W. Wainwright, New York City, Secretary.

Ophthalmology—H. V. Würdemann, Milwaukee, Chairman; C. F. Clarke, Columbus, Ohio, Secretary.

Laryngology and Otology—Christian R. Holmes, Cincinnati, Chairman; J. A. Stucky, Lexington, Ky., Secretary.

Diseases of Children—Edwin Rosenthal, Philadelphia, Chairman; Louis Fischer, New York City, Secretary.

Physiology and Dietetics—Elmer Lee, New York City, Chairman; R. Harvey Cook, Oxford, Ohio, Secretary.

Neurology and Medical Jurisprudence—Hugh T. Patrick, Chicago, Chairman; F. S. Pearce, Philadelphia, Secretary.

Cutaneous Medicine and Surgery—L. Duncan Bulkley, New York City, Chairman; R. R. Campbell, Chicago, Secretary.

State Medicine—W. C. Woodward, Washington, D. C., Chairman; Armand Ravold, St. Louis, Secretary.

Stomatology—M. H. Fletcher, Cincinnati, Chairman; Eugene S. Talbot, Chicago, Secretary.

MEDICAL SOCIETIES ENTITLED TO REPRESENTATION IN THE AMERICAN MEDICAL ASSOCIATION APRIL 14, 1900.

In accordance with the Constitution, this list is prepared as certified by the secretaries of the State and Territorial medical societies.

ALABAMA.

Alabama State M S., and all County Societies.

ARIZONA.

Arizona Territory M. A.
Maricopa County M. S.
Pima County M. S.
Yarapai County M. S.

ARKANSAS.

Arkansas State M. S.
Baxter County M. S.
*Benton County M. S.
*Boone County M. S.
*Craighead County M. S.
Crawford County M. S.
*Eureka Springs, Carroll County M. S.
*Hempstead County M. S.
Hot Springs M. S.
*Independence County M. S.
*Jefferson County M. S.
Lee County M. S.
*Little Rock M. S.
Phillips County M. S.
*Polk County M. S.
Sebastian County M. S.
Washington County M. S.
*White County M. S.

CALIFORNIA.

M. S. State of California
Alameda County M. S.
California Acad. of Med.
*California Northern District M. S.
El Paso M. S.
Fresno County M. S.
Humboldt County M. S.
Kern County M. S.
Lake County M. S.
*Los Angeles County M. S.
Marin County M. S.
Medico-Chirurg. M. S.
*Monterey County M. S.
Orange County M. S.
Pasedena M. A.
Placer County M. S.
Pomona Valley M. S.
Riverside County M. S.
San Diego County M. S.
Sarcamento S. for Med. Improvement.
San Bernandino County M. A.
San Francisco County M. S.
San Francisco Clin. S.
San Joaquin County M. S.
San Joaquin Valley M. S.
San Louis Obispo and Northern Santa Barbara County M. A.
Santa Barbara County M. S.
Santa Clara County M. S.
Santa Cruz County M. S.
*Society of German Physicians of San Francisco
Sonoma County M. S.
Southern California M. S.
Tulare County M. S.
Ventura County M. S.
Yolo County M. S.
Yuba and Sutter Counties M.S.

COLORADO.

Colorado State M. S.
Alumni Ass'n of the Gross M. College.
Cripple Creek M. S.
Denver Clin. S.
Denver Clin. and Path. S.
Denver and Arapahoe M. S.
Denver Med. Col. Alumni Association.
El Paso County M. S.
Fremont County M. S.
Lake County M. S.
*Larimer County M. S.
Las Animas County M. S.
Morgan County M. S.
*Otero County M. S.
Pueblo County M. S.
Weld County M. S.

CONNECTICUT.

Connecticut State M. S.
*Bridgeport M. A.
*Danbury M. A.
Fairfield County M. A.
Hartford County M. A.
Hartford M. S.
Litchfield County M. A.
Middlesex County M. A.
New Haven County M. A.
New London County M. A.
Norwich M. A.
*Stamford M. S.
Tolland County M. A.
*Waterbury M. A.
Windham County M. A.

DISTRICT OF COLUMBIA.

Med. Ass'n of D. C.

DELAWARE.

Delaware State M. S.

FLORIDA.

Florida State M. S.
Alachua County M. S.
Duval County M. S.
Hillsborough M. S.
Osceola County M. S.
St. John County M. S.

GEORGIA.

Georgia State M. A.
Atlanta Soc. of Med.
Macon M. S.

IDAHO.

Idaho State M. S.

ILLINOIS.

Illinois State M. S.
Adams County M. S.
Æsculapian S. of Wabash Valley.
Aurora M. S.

Belleville M. S.
Brainard Dist. M. S.
Bond County M. S.
Bureau County M. S.
Cairo M. S.
Calhoun County M. S.
Capital Dist. M. S.
Central Dist. M. S.
Champaign County M. S.
Chicago Acad. of Med.
Chicago Gynecological S.
*Chicago Laryngological Soc.
Chicago M. S.
Chicago Medico-Legal S.
Chicago Neurological S.
Chicago Ophthal. and Otol. S.
Chicago Orthopedic S.
Chicago Pathological S.
*Chicago Pediatric Society.
Chicago Physicians' Club.
Chicago Soc. Internal Med.
Chicago Soc. Med. Examiners.
*Chicago Therapeutic Society.
Clay County M. S.
Clinton County M. S.
Coles County M. S.
*County Hosp. Alumni S.
Crawford County M. S.
Decatur M. S.
Dewitt County M. S.
Douglas County M. S.
E. St. Louis M. S.
Egyptian M. S.
Fox River Valley M. S.
Fulton County M. S.
Galva Dist. M. S.
Galesburg M. S.
Gallatin County M. S.
Green County M. S.
Hancock County M. S.
Hardin County M. S.
Iowa and Ill. Cent. Dist. M. S.
Jackson County M. S.
Jacksonville Med. Club.
Jersey County M. S.
Kankakee County M. S.
Lake County M. S.
La Salle County M. S.
Lawrence County M. S.
Macoupin County M. S.
Marion County M. S.
Massac County M. S.
McDonough County M. S.
McLean County M. S.
Med. and Sur. S. of Western Ill.
Military Tract M. A.
Monroe County M. S.
Morgan County M. S.
Moultrie County M. S.
North Central Illinois M. S.
*North Chicago M. S.
Ogle County M. S.
Ottawa City M. S.
Peoria M. S.
Peoria County M. S.
Perry County M. S.
Pullman Dist. M. S.
Quincy Med. and Lib. Ass'n.
Rock River Valley M. A.
Saline County M. S.
*Sangamon County M. S.
Scandanavian M. S. Chicago.
Scott County M. S.
Shelby County M. S.
Southeastern Illinois M. S.
Southern Illinois M. S.
*Springfield Med Club.
St. Clair County M. S.
Stephenson County M. S.
Tri-County M. S.
-Twin City Clin. Ass'n of Champaign and Urbana.
Vermillion County M. S.
Wabash County M. S.
Warren County M. S.
Washington County M. S.
Western M. and S. S.
White County M. S.
Whiteside County M. S.
Williamson County M. S.
Winnebago County M. S.
Woodford County M. S.
Will County M. S.

INDIANA.

Indiana State M. S.
Allen County M. S.
Bartholomew County M. S.
Benton County M. S.
Blackford County M. S.
Boone County M .S.
Carroll County M. S.
Cass County M. S.
Clark County M. S.
Clay County M. S.
Daviess County M. S.
Dearborn County M. S.
Decatur County M. S.
Dekalb County M. S.
Delaware County M. S.
Dubois County M. S.
Elkhart County M. S.
Fayette County M. S.
Floyd County M. S.
Fountain County M. S.
Franklin County M. S.
Gibson County M. S.
Grant County M. S.
Greene County M. S.
Hamilton County M. S.
Hancock County M. S.
Hendricks County M. S.
Henry County M. S.
Howard County M. S.
Huntington County M. S.
Jackson County M. S.
Jay County M. S.
Jefferson County M. S.
Jennings County M. S.
Johnson County M. S.
Knox County M. S.
Kosciusko County M. S.
Lagrange County M. S.
*Lake County M. S.
Laporte County M. S.
Lawrence County M. S.
Madison County M. S.
Marion County M. S.
Marshall County M. S.
Martin County M. S.
Miami County M. S.
Monroe County M. S.
Montgomery County M. S.
*Morgan County M. S.
Newton County M. S.
Noble County M. S.
Orange County M. S.
Owen County M. S.
Parke County M. S.
Perry County M. S.
Pike County M. S.
Porter County M. S.
Posey County M. S.
Putnam County M. S.
Rush County M. S.
Randolph County M. S.
Ripley County M. S.
Shelby County M. S.
St. Joseph County M. S.
Steuben County M. S.
Sullivan County M. S.
Switzerland County M. S.
Tippecanoe County M. S.
Tipton County M. S.
Vanderburg County M. S.
Vigo County M. S.
Wabash County M. S.
Warrick County M. S.
Washington County M. S.
Wayne County M. J.
Wells County M. S.
White County M. S.
Whitley County M. S.

INDIAN TERRITORY.

Territorial Ass'n.

IOWA.

Iowa State M. S.
Austin Flint M. S.
Blackhawk County M. S.
Boone Valley M. S.
Botna Valley M. S.
Buchanan County M. S.
*Cedar Rapids M. S.
Cedar Valley M. S.
Central District M. S.
Cherokee County M. S.
Clark County M. S.
Clinton County M. S.
Council Bluffs M. S.
Dallas County M. S.
Delaware County M. S.
Des Moines County M. S.
*Des Moines Valley M. S.
Dubuque M. S.
*Eastern Iowa M. S.
Fayette County M. S.
Fort Dodge M. S.
*Fremont County M. S.
Gate City M. S.
*Guthrie District M. S.
*Hummiston & Shenandoah M.S.
Iowa Central M. S.
*Iowa Union M. S.
Iowa and Illinois M. S.
Jasper County M. S.
*Jefferson County M. S.
*Johnson County M. S.
Julien M. S.
*Julien Med. & Surg. Ass'n.
*Keokuk County M. S.
*Keokuk M. S.
Lyon County M. S.
Missouri Valley M. S.
Mitchell County M. S.
North Iowa M. S.
*Northwestern M. A.
*Plymouth County M. S.
Pocahontas District M. S.
Polk County M. S.
Ringgold County M. S.
*Scott County M. S.
*Sioux City M. S.
Sioux Valley M. S.
Southwestern Iowa M. S.
Spirit Lake Med. Association.
*Story County M. S.
Wapello County M. S.
Wapsie Valley Med. Ass'n.
Warren County M. S.
Washington County M. S.
Winnebago County M. S.
*Worth County M. S.

KANSAS.

Kansas State M. S.
Bourbon County M. S.
Golden Belt M. S.
Leavenworth County M. S.
South-East Kansas M. S.
Topeka Acad. of Med. & Surg.
Wyandotte M. S.

KENTUCKY.

Kentucky State M. S.
*Anderson County M. S.
Boyle County M. S.
*Brashear M. S.
*Carlisle County M. S.
*Carter County M. S.
Central Kentucky M. S.
Clark County M. S.
*Garrard County M. S.
Hardin County M. S.
*Henderson County M. S.
*Kentucky Valley County M.S.
Lexington and Fayette Counties M. S.
*Lincoln County M. S.
*Louisville M. S.
Marion County M. S.
Mason County M. S.
*Midland District M. S.
Muhlenberg County M. S.
*Muldraugh's Hill M. S.
*Nelson County M. S.
Northeast Kentucky M. S.
Owensboro M. S.
Paducah M. and S. S.
*Pulaski County M. S.
*Scott County M. S.
Southeast Kentucky M. S.
*Southwestern District M. S.
*Union County M. S.

LOUISIANA.

Louisiana State M. S.
*Attakapas M. S.
*Avoyelles M. S.
*Baton Rouge M. S.
*Morehouse M. S.
*N. Louisiana M. S.
*Onachitta M. S.
Orleans Parish M. S.
*Shreveport M. S.
*Tensas M. S.
*Warren Stone M. S.

MAINE.

Maine State M. S.

MARYLAND.

Maryland Med. and Chir. Faculty (the State Society).
*Baltimore Med. & Surg. A.
*Clinical Society of Maryland.

MASSACHUSETTS.

Massachusetts M. S.
Barnstable District M. S.
Berkshire District M. S.
Bristol North District M. S.
Bristol South District M. S.
Essex North District M. S.
Essex South District M. S.
Franklin District M. S.
Hampshire District M. S.
Hampden District M. S.
Middlesex South District M. S.
Middlesex East District M. S.
Middlesex North District M. S.
Norfolk District M. S.
Norfolk South District M. S.
Plymouth District M. S.
Suffolk District M. S.
Worcester District M. S.
*Worcester North District M.S.

MICHIGAN.

Michigan State M. S.
Bay County M. S.
*Berrien County M. S.
Calhoun County M. S.
Cheboygan County M. S.
Detroit Acad. of Med.
Detroit Gynecological Society.
*Detroit Med. & Lib. A.
Grand Rapids Acad. of Med.
Kalamazoo Acad. of Med.
Marshall Acad. of Med.
Northeastern District M. S.
Pontiac M. S.
*Upper Peninsula M. S.
Washtenaw County M. S.
Wayne County M. S.

MINNESOTA.

Minnesota State M. S.
*Cannon Valley M. S.
Crow River Valley M. S.
Fillmore County M. S.
Minnesota Acad. of Med.
Minnesota Valley Med. Ass'n.
Hennepin County M. S.
Inte
Olmst
Ra
South
South

St. Louis County M. S.
Wabasha County M. S.
Winona County M. S.

MISSISSIPPI.

Mississippi State M. S.

MISSOURI.

Missouri M. A.
Atchison County M. S.
*Boone County M. S.
*Buchanan County M S
*Carroll County M S.
Cedar County M. S.
Central Missouri District M. S.
Chariton County M. S.
*Clay County M. S.
*Dade County M. S.
*Eldorado Springs M. S.
Franklin County M. S.
Grand River District M. S.
Hannibal M. S.
*Harrison County M. S.
Henry County M. S.
Hodgen M. A.
Howard County M. S.
Independence Med. S.
Jackson County M. S.
Jasper County M. S.
John McDowell M. A.
*Joplin M. S.
Kansas City Acad. of Med.
Kansas City District M. S.
Lafayette County M. S.
Limton District M. S.
Macon County M. S.
Memphis M. S.
Montgomery County M. S.
North Missouri District M. S.
*Northeast Mo. Dist. M. S.
Northwest Missouri M. S.
Pettis County M. S.
Pike County M. S.
Putnam County M. S.
Rolla District M. S.
Saline County M. S.
Shelby County M. S.
Southwest Mo. Dist. M. S.
Springfield M. S.
*State Line M. S.
*St. Louis Acad. of M & S. Sci.
St. Louis M. S.
St. Charles County M. S.
St. Joseph M. S.
Western Surg. and Gyn. A.

MONTANA.

Montana M. S.
Park County M. S.
*Silver Bow County M. S.

NEBRASKA.

Nebraska State M. S.
Elkhorn Valley M. S.
Omaha M. S.
*Otoe County M. S.
Southeastern Neb. M. S.
Lincoln M. S.
Loup Valley District M. S.
*York County M. S.

NEVADA.

Nevada State M. S.

NEW HAMPSHIRE.

New Hampshire State M. S.
Carroll District M. S.
Central District M. S.
Cheshire County M. S.
Conn. River Valley M. S.
Manchester M. A.
Nashua M. A.
Rockingham District M. S.
Strafford District M. S.
White Mountain M. S.
White River District M. S.
Winnepesaugee Acad. Med.

NEW JERSEY.

New Jersey State M. S.
Atlantic County M. S.
Bergen County M. S.
Burlington County M. S.
Camden County M. S.
Cape May County M. S.
Cumberland County M. S.
Essex County M. S.
Gloucester County M. S.
Hudson County M. S.
Hunterdon County M. S.
Mercer County M. S.
Middlesex County M. S.
Monmouth County M. S.
Morris County M. S.
Ocean County M. S.
Passaic County M. S.
Salem County M. S.
Somerset County M. S.
Sussex County M. S.
Union County M. S.
Warren County M. S.

NEW MEXICO.

New Mexico M. S.
Bernalillo County M. S.
*Las Vegas M. S.

NEW YORK.

New York State M. A.
*Genesee County M. A.
Hornellsville M. and S. A.
Kings County M. A.
New York County M. A.
Ontario County M. S.
Med. Ass'n of Troy and Vicinity
*Wyoming County M. A.

NORTH CAROLINA.

North Carolina State M. S.
Buncombe County M. S.
Charlotte M. S.
Raleigh Acad. of Med.
*Rowan County M. S.

NORTH DAKOTA.

North Dakota State M. S.

OHIO.

Ohio State M. S.
Adams County M. S.
Allen County M. S.
Ashland County M. S.
Ashtabula County M. S.
Belmont County M. S.
Brown County M. S.
Butler County M. S.
Central Ohio M. S.
Champaign County M. S.
Cincinnati Acad. of Med.
Clarke County M. S.
Clermont County M. S.
Cleveland M. S.
Clinton County M. S.
Columbus Acad. of Med.
Crawford County M. S.
Cuyahoga County M. S.
Defiance County M. S.
Delaware County M. S.
Eastern Ohio M. S.
East Liverpool M. S.
Erie County M. S.
Gallia County M. S.
Greene County M. S.
Hancock County M. S.
Hempstead Mem. Acad.
Highland County M. S.
Holmes County M. S.
Jackson County M. S.
Jefferson County M. S.
Lorain County M. S.
Lucas County M. S.
Mahoning County M. S.
Mansfield Acad. of Med.
Marion County M. S.
Meiggs County M. S.
Miami County M. S.
Miami Valley M. S.
Montgomery County M. S.
Morrow County M. S.
Muskingum County M. S.
North Central Ohio M. S.
Northwestern Ohio M. A.
Perry County M. S.
Pickaway County M. S.
Pike County M. S.
Portage County M. S.
Ross County M. S.
Sandusky County M. S.
Shelby County M. S.
*Springfield Acad. of Med.
Stark County M. S.
Stillwater M. A.
Toledo M. A.
Tuscarawas County M. S.
Union M. A.
Union M. A. of N. E. Ohio.
Warren County M. S.
Washington County M. S.
Wayne County M. S.

OKLAHOMA.

Oklahoma Territorial M. S.

OREGON.

Oregon State M. S.
Portland M. S.
South Oregon M. S.

PENNSYLVANIA.

Pennsylvania State M. S.
Allegheny County M. S.
Armstrong County M. S.
Beaver County M. S.
Bedford County M. S.
Berks County M. S.
Blair County M. S.
Bradford County M. S.
Bucks County M. S.
Butler County M. S.
Cambria County M. S.
Carbon County M. S.
Centre County M. S.
Chester County M. S.
Clarion County M. S.
Clearfield County M. S.
Clinton County M. S.
Columbia County M. S.
Crawford County M. S.
Cumberland County M. S.
Dauphin County M. S.
Delaware County M. S.
Elk County M. S.
Erie County M. S.
Fayette County M. S.
Franklin County M. S.
Greene County M. S.
Huntington County M. S.
Indiana County M. S.
Jefferson County M. S.
Juniata County M. S.
Lackawanna County M. S.
Lancaster County M. S.
Lawrence County M. S.
Lebanon County M S.
Lehigh County M. S.
Luzerne County M. S.
Lycoming County M. S.
McKean County M. S.
Mercer County M. S.
Mifflin County M. S.
Montour County M. S.
Montgomery County M. S.
Northampton County M. S.
Perry County M. S.
Potter County M. S.
Philadelphia County M. S.
Schuylkill County M. S.
Somerset County M. S.
Susquehanna County M. S.
Tioga County M. S.
Venango County M. S.
Warren County M. S.
Washington County M. S.
Westmoreland County M. S.
York County M. S.

RHODE ISLAND.

Rhode Island State M. S.

SOUTH CAROLINA.

South Carolina State M. S.
Anderson County M. S.
Greenville County M. S.
Laurens County M. S.
Med. Soc. of S. Carolina.
Richland County M. S.
Sumter County M. S.
Union County M. S.

SOUTH DAKOTA.

South Dakota State M. S.
Minnehaha M. S.

TENNESSEE.

Tennessee State M. S.

TEXAS.

Texas State M. S.
Austin District M. S.
Brazos Valley M. A.
*Briggs M. S. of Ellis County
*Caldwell County M. S.
Central Texas M. S.
Cooke County M. S.
East Line M. A.
East Texas M. S.
*El Paso County M. S.
Johnson County M. S.
North Texas M. A.
*Phys & Surgs. M. A., Bell Co.
South Texas M. A.
Terrell M. A.
Waco M. S.
Western Texas M. A.
Williamson Bell Milan County M. S.

UTAH.

Utah State M. S.
Salt Lake County M. S.
Salt Lake Acad. Med.
Weber County M. S.
*Weber County Acad. of Med.

VERMONT.

Vermont State M. S.

VIRGINIA.

Virginia State M. S.

WASHINGTON.

Washington State M. S.
Kings County M. S.
Pierce County M. S.
Spokane County M. S.
Thurston County M. S.
Whitman County M. S.

WEST VIRGINIA.

West Virginia State M. S.
Charleston M. and S.
Harrison County M. S.
Ohio County M. S.

WISCONSIN.

Wisconsin State M. S.
Ashland County M. S.
*Barron County M. S.
Brainerd M. S.
Brown County M. S.
Central Wisconsin M. S.
*Douglas County M. S.
Fox River Valley M. S.
Inter-County M. S.
La Crosse County M. S.
*Manitowoc M. S.
Milwaukee M. S.
Northwestern Wis. M. A.
Sheboygan County M. S.
*Vernon County M. S.
Waukesha County M. S.

WYOMING.

Wyoming State M. S.

Societies marked with an asterisk have been added since the last publication of this list.

Any society omitted should send to the office of the Secretary notice to that effect *accompanied by a certificate from the secretary of the State society that said society is so recognized in accordance with the above quoted law relating to representation.*

Secretaries are earnestly requested to forward *at once* lists of their delegates.

In order that the Secretary may be enabled to erase from the roll the names of those who have forfeited their membership, the secretaries are, by *special resolution*, requested to send to him, annually a corrected list of the membership of their respective societies.

George H. Simmons, Secretary,
61 Market Street, Chicago.

Deaths and Obituaries.

Joseph Harrison Vondy, M.D., died at his home in Jersey City, N. J., April 2. He was born in New Brunswick, Canada, in 1829, and was graduated from the New York University Medical College in 1851. As a resident of Jersey City throughout his professional life he became widely known for his public spirit. Among his good works the estabishment of the City Hospital is noted. He leaves a widow and two sons.

Rufus W. Dashiell, M.D., died at Princess Anne, Md., March 28, of Bright's disease. He was born in 1850, educated at St. John's College, Annapolis, studied medicine under Prof. Nathan R. Smith, and was graduated from the College of Physicians and Surgeons, Baltimore, in 1872. He had been a member of the State Lunacy Board since 1893.

John Sterling Bird, M.D., College of Physicians and Surgeons, N. Y., 1863, died from pneumonia, April 3. He was born in Winchester, Conn., Aug. 29, 1836. He opened an office in Hyde Park, Dutchleys Co., N. Y., in 1865, and in that village passed the remainder of his life.

Q. C. Farquhar, M.D., California, Pa., died March 28. He was a graduate of the University of Pennsylvania, class of 1877, and practiced twenty years at Centerville and two at California. He was a member of the American Medical Association.

William Camac, M.D., Philadelphia, died April 3, aged 71 years. Dr. Camac served with distinction in the Civil War, and later located in Philadelphia. He was a graduate of the Jefferson Medical College.

Alexander J. G. Devron, M.D., died in New Orleans, La., March 24. He was an ex-surgeon, Confederate States Army, ex-member of the Louisiana State Board of Health, and a member Royal Microscopical Society of England.

James L. Dicken, M.D., Wabash, Ind., died March 26. He was born in 1821, and was graduated from the Ohio Medical College at the age of 30 years. During the Civil War he was surgeon of the 47th Indiana Infantry.

James Cummiskey, M.D., Jefferson, 1856, died from pneumonia, at his home in Philadelphia, March 25, aged 64 years. He was for many years physician-in-chief to St. Mary's Hospital.

John Milton Worth, M.D., died at Asheboro, Md., April 5, aged 89. He served five terms in the State Senate and was State treasurer from 1876 to 1884.

Benjamin F. Shaw, M.D., University Medical College, Kansas City, Mo., 1892, was fatally shot April 1, by his brother-in-law, once an inmate of a sanitarium.

Franklin B. Keller, M.D., Pottstown, Pa., died from septicemia, March 24. He was a graduate of the Jefferson Medical College, class of 1874.

J. N. Folwell, M.D., died in New Orleans, La., March 31, aged 71 years. He was graduated from Jefferson Medical College in 1847.

G. L. Humphrey, M.D., died in Monroe, Neb., March 30. He was graduated from Jefferson Medical College in 1874.

Edward Mulheron, M.D. University of Buffalo, N. Y., 1872, died at his home in Binghamtom, N. Y., April 6, aged 53 years.

A. J. Bacon, M.D., Rush Medical College, 1864, died at his home in Gardina, Cal., March 30.

Benjamin A. Carr, M.D., of Anne Arundel County, Md., University of Maryland, 1853, was found dead in bed March 21. He was 68 years of age.

A. J. Murbach, M.D., Archbold, Ohio, of pneumonia, March 26, aged 62 years.

George A. Wilson, M.D., Rush Medical College, 1866, died at his home in Peoria, Ill., April 7.

Francis G. Warren, M.D., Jefferson, 1861, died in Biddeford, Me., aged 72 years, April 2.

Frank B. Keller, M.D., Jefferson Medical College, 1874, died in Pottstown, Pa., March 24, aged 51 years.

Alphonsus Joseph Fitzgerald, M.D., Bellevue, N. Y., 1889, died at his home in New York City, from pneumonia, March 29.

We also note the following deaths:

J. M. Layman, M.D., Maysville, Ala., March 23, aged 74 years.

Edwin M. Smith, M.D., Philadelphia, died March 29, aged 77 years. He was a graduate of the Jefferson Medical College.

James Hamer, M.D., Collegeville, Pa., died March 24, aged 81 years. He was a graduate of the University of New York.

Charles Wooster Butler, M.D., in Jamaica, N. Y., March 25.

DEATHS ABROAD.

The prominent Munich physician, Dr. F. E. Aub, succumbed to an apoplectic attack, March 16, in the Bavarian legislature, of which he had been a member for thirty years.

Prof. J. Hofmokl, a prominent Vienna surgeon, recently died from heart disease, which compelled him to resign his chair a year ago.

Among other recent deaths abroad we note that of Prof. K. v. Mosengeil, of Bonn, and Professor Tschurtschenthaler, of Innsbruck.

Miscellany.

Unna's Prize.—The prize of 300 marks, offered by Unna for 1900, is for the best study of the finer architecture of cutaneous cancers, with special regard to the connection between proliferation of epithelium and resistance of connective tissue. Articles are to be sent to Leopold Voss, Hohe Bleichen 34, Hamburg, before December 1.

Position and Presentation.—In the article by Dr. F. A. Stahl, in last week's Journal, the following descriptive text should accompany the illustrations on pages 841 and 842: "Fig. 1—Position: First vertical (*a*). Presentation: Originally either a left occipito-anterior or a right mento-posterior," instead of right occipito-posterior. "Fig. 4—The controlling tape passed about the wrist is held here by the right hand of an assistant; to turn, the operator enters the uterine cavity with his right hand, etc."

Hospital Hygiene.—Letulle asserts that various signs tend to indicate that the year 1900 will inaugurate a new era in hospital hygiene at Paris, and as surgical and obstetric services have now reached the limits of perfection, compulsory asepsis in the medical wards will in time be accomplished. As at present conducted, he states in a communication to *Presse Med.*, March 29, if subjects with cancer or any lingering non-bacillary affection sojourn for a few weeks in a Paris hospital, the rule is that they finally die of pulmonary tuberculosis. *He draws a picture of the enormous proportion of* hospital attendants who succumb to tuberculosis. Among the Augustin nuns at the Hotel Dieu, who number about 113, there have been 102 deaths during the last twenty-four years, and over 80 per cent. were due to pulmonary tuberculosis. It also affects numbers of medical students from the country, who arrive in superb health but succumb to the infection in two or three years.

Preliminary Training for Medicine.—The *Deutsche Revue* publishes an article by Prof. Hans Buchner, on this subject, which is a strong plea for higher standards of admission to the study of medicine, instead of lowering the standards, as has been done in France and Russia. [illegible] accept the diploma of the technical schools. This step is being urged also in Germany in certain non-medical circles. The tendency of the day, he observes, is to regard medicine more and more as a technical profession. All physicians protest against this view. They realize that, as Herbert Spencer prophesied, they are to be the guides of the people, and for this exalted task the broadest educational foundations are required. Pettenkofer compares the study of the classics and mathematics to mother's milk, "part of the living body and indispensable to the nourishment of the developing intellect," and Buchner warmly endorses his views.

NEW PATENTS.

Patents of interest to physicians, etc., March 20 to 27.

645,908, Fracture apparatus, Carl Boegle, Munich, Germany.
645,644. Vaporizer, Olin A. Johnston, New York, N. Y.
645,901. Hernial truss, Patrick Madden, Soldiers' Home, Los Angeles, Cal.
645,566. Device for injecting powders into the nasal passages, Charles H. Murphy, Madisonville, Ky.
645,740. Artificial hand and arm, Henry Schenk, Sandusky, Ohio.
645,741. Inhaler, Walter W. Winton, Scranton, Pa.
646,073. Pessary, Henry A. Hempel, Gotha, Fla.
646,034. Making medicinal products. Heinrich Oppermann, Bernburg, Germany.
646,194. Bed-robe for invalids, Mary E. Sims, San Angelo, Texas.
32,399. Design, Atomizing tip for spraying apparatus, Wayne H. Rice, assignor to R. W. & S. M. Rice, Windsor, Conn.

Queries and Minor Notes.

FOR SALE TO BEST BIDDER.

The following advertisement, which appeared in an Ohio newspaper, shows the way it is going in that state:

> "NOTICE.
>
> ———, Ohio, March 19, 1900.
>
> The Trustees of ——— Township will receive bids until 12 o'clock noon, on Tuesday, April 3, 1900, from those who will furnish the necessary medical and surgical skill, and perform the duties of Health Officer for the poor of ——— Township, and all who may come under our care for one year from April 15, 1900.
>
> Specifications may be obtained from the clerk."

PRACTICE IN WEST VIRGINIA.

Detroit, Mich., April 6, 1900.

To the Editor.—Would you kindly inform me regarding the medical laws of West Virginia? I am a graduate of the Detroit Medical College, four years' course, and am thinking of locating in the South and would like to know whether it will be necessary for me to take a state examination or not. F. J. McD.

Answer:—No one is allowed to engage in the practice of medicine in West Virginia without having passed an examination by the State Board of Health and received its certificate. The charge for the examination is $10. Examinations are held at least three times a year. The secretary of the Board is Dr. A. R. Barbee, Point Pleasant, W. Va.

BOOK ON CANCER CURES WANTED.

H. B. W., Oxford, Me., desires to procure a late work on the "cure of cancers," one that contains formulæ for the removal by topical applications.

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., March 23-29 inclusive:

Frederick J. Combe, major and surgeon, Vols., from New York City, to the Department of California.

Douglas F. Duval, lieutenant and asst.-surgeon, U. S. A., from San Francisco, Cal., to Manila, P. I., reporting on arrival for temporary duty in the Department of the Pacific until the hospital ship *Misouri* returns to Manila.

Euclid B. Frick, captain and asst.-surgeon, U. S. A., member of a promotion board at Governor's Island, N. Y.

Harry C. Gemmill, acting asst.-surgeon, from Logansport, Ind., to Fort Thomas, Ky.

Chester L. Hodgkins, acting asst.-surgeon, from Washington, D. C., to the Department of California.

Henry S. Kilbourne, major and surgeon, U. S. A., member of a board to inquire into all the facts relating to the fitting up and equipment of the hospital ships *Relief* and *Missouri*, including their condition at the time of purchase by the United States, and particularly to report upon the present condition of these ships, their seaworthiness, their adaptation for hospital purposes and the sums necessary to put them in condition to meet the requirements of the hospital service, the reasons why they are not seaworthy or in condition for hospital service, if such be the case, and if such reasons are found in the character of the work done upon them since their purchase by the Government, to fix the responsibility therefor.

William L. Kneedler, captain and asst.-surgeon, U. S. A., from San Francisco, Cal., to Manila, P. I., reporting on arrival for temporary duty in the Department of the Pacific until the hospital ship *Missouri* returns to Manila.

Millard Langfield, acting asst.-surgeon, from Omaha, Neb., to the Department of California.

Edward Lyon, Jr., acting asst.-surgeon, Fort Schuyler, N. Y., leave of absence granted.

James N. McCall, acting asst.-surgeon, from St. Francis Barracks, Fla., to Fort Schuyler, N. Y.

John L. Phillips, captain and asst.-surgeon, U. S. A., member of an army promotion board at Governor's Island, N. Y.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ending March 31, 1900.

Assistant-Surgeon J. T. Kennedy, ordered to additional duty at the marine recruiting rendezvous, San Francisco, Cal.

Pharmacist J. F. Pearson, appointed pharmacist from March 26.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commisioned officers of the U. S. Marine-Hospital Service for the seven days ended March 29, 1900.

Surgeon Eugene Wasdin, to report at Washington, D. C., for special temporary duty.

Surgeon L. L. Williams, leave of absence for two days (paragraph 179, Regulations, M.H.S.) from March 27, 1900.

Asst.-Surgeon T. D. Berry, to proceed to New Orleans, La., and report to the medical officer in temporary charge for duty and assignment to quarters.

APPOINTMENT.

Thomas D. Berry, of Texas, commissioned as assistant-surgeon.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended April 7, 1900.

SMALLPOX—UNITED STATES.

Alabama: Mobile, March 24-31, 1 case.
Florida: Jacksonville, March 24-31, 2 cases.
Indiana: Evansville, March 24-31, 5 cases.
Kansas: Wichita, March 24-31, 8 cases.
Kentucky: Covington, March 24-31, 12 cases, 1 death; Lexington, March 24-31, 1 case.
Louisiana: New Orleans, March 24-31, 64 cases, 21 deaths.
Massachusetts: Boston, March 24-31, 1 case.
Michigan: Detroit, March 24-31, 4 cases.
Nebraska: Omaha, March 24-31, 1 case.
New Mexico: Catskill, March 21, 2 cases; Folsom, March 21, 5 cases.
New York: New York, March 24-31, 1 case.
Ohio: Cleveland, March 24-31, 17 cases.
Utah: Salt Lake City, March 24-31, 1 case.
Washington: Spokane, March 24-31, 1 case.

SMALLPOX—FOREIGN.

England: Liverpool, March 10-17, 1 case; London, March 3-17, 12 cases.
France: Lyons, March 3-10, 2 deaths; Rheims, March 3-10, 8 deaths.
Gibraltar: March 4-18, 14 cases.
India: Bombay, February 20-27, 263 deaths; February 27 to March 6, 269 deaths; Calcutta, February 10-24, 26 deaths; Kurrachee, February 18 to March 4, 32 cases, 15 deaths.
Japan: Yokohama, February 24 to March 3, 1 case.
Korea: Seoul, January 20-27, 2 cases, 1 death.
Spain: Madrid, March 3-17, 22 deaths.

YELLOW FEVER.

Colombia: Panama, March 7-14, 7 cases.
Cuba: Havana, March 17-24, 2 cases, 1 death.

CHOLERA.

India: Bombay, February 20 to March 6, 19 deaths; Calcutta, February 10-24, 130 deaths.

PLAGUE—INSULAR POSSESSIONS, U. S.

Hawaii: Honolulu, March 10-17, 2 cases, 1 death.

PLAGUE—FOREIGN.

Arabia: Aden, February 22 to March 10, 22 cases, 13 deaths.
India: Bombay, February 22 to March 6, 1468 deaths; Calcutta, February 10-24, 460 deaths; Kurrachee, February 18 to March 4, 92 cases, 73 deaths.
Japan: Formosa, January 1 to February 28, 97 cases, 78 deaths.

CHANGE OF ADDRESS.

Dr. W. E. Baxter, from 553 to 419 Boylston St., Boston, Mass.
Dr. J. C. Bird, from Kansas City to 925 N. 19th St., St. Louis, Mo.
Dr. R. C. Elmore, from Nashville, Tenn., to Acona, Miss.
Dr. C. C. Echols, from Augusta to Athens, Ga.
Dr. M. D. Fletcher, from 2264 to 2248 Central Ave., Alameda, Cal.
Dr. H. B. Graeser, from Kensett to 947 W. 19th St., Des Moines, Iowa.
Dr. R. F. Godard, from Augusta to Hazelhurst, Ga.
Dr. W. D. Gholston, from Augusta to Danielsville, Ga.
Dr. H. F. Glenn, from Atlanta, Ga., to Bethel, S. C.
Dr. B. M. Hopkinson, from 1325 Park Ave. to 1435 Balton St., Baltimore, Md.
Dr. Lee Haynes, from St. Louis to Unionville, Mo.
Dr. W. P. Kemp, from St. Louis to Hale, Mo.
Dr. C. W. McCarty, from Kansas City, Mo., to Scottsville, Kan.
Dr. R. H. Mobley, from Augusta to Lumber City, Ga.
Dr. H. H. Moody, from Mobile to Bailey Springs, Ala.
Dr. W. A. Robinson, from Kansas City to Amsterdam, Mo.
Dr. C. Trueblood, from Chesterfield, to Anderson, Ind.
Dr. J. B. Wharton, from Atlanta, Ga., to Arcadia, La.

The Journal of the
American Medical Association

Vol. XXXIV CHICAGO, ILLINOIS, APRIL 21, 1900. No. 16.

Original Articles.

AFFECTIONS OF THE KIDNEY IN RELATION TO PREGNANCY.*

BY J. CLARENCE WEBSTER, M.D., Edin., F.R.C.P.E.
Professor of Obstetrics and Gynecology in Rush Medical College.
CHICAGO.

CHANGES IN THE KIDNEYS DURING PREGNANCY.

For many years there has been much discussion as to the alterations occurring in the kidneys during pregnancy, and, at the present time, there is considerable difference of opinion as to the nature of these changes, their frequency, causation and significance. The literature of the subject is abundant in speculative inquiries, while records of trustworthy facts derived from careful and systematic observation are scanty. Indeed, though theories have multiplied, it is doubtful whether we are very much wiser than we were fifty years ago, for the latest and most favored views, originating among French workers, are only an elaborated expression of the opinion published by Virchow in 1848.

This authority then pointed out that, of all the organs in the female organism, the most frequent functional or structural alterations due to pregnancy were found in the kidneys. He regarded the cause mainly as connected with altered metabolism, changes being induced not only in the kidneys, but in the liver, spleen and other parts. In association with these alterations, he pointed out the frequency of albuminuria.

In view of the time limits which the present occasion demands it is impossible to do more than present a summary of the main lines of investigation along which workers have moved in their efforts to throw light on a difficult subject.

That the kidney becomes somewhat hypertrophied as a result of pregnancy all are agreed, though the nature of the enlargement and range of variations are not at all definitely known. The quantity of urine is increased and it is of a lower specific gravity.

Sugar is found in a considerable number of cases of pregnancy, and more frequently after delivery, but this is only milk-sugar absorbed from the breasts, not true glucose. The latter is no more frequent in pregnancy than in the non-pregnant state.

Peptones are occasionally found in pregnancy; by many being thought to indicate death of the fetus, though there is no proof whatever of this. They are very frequent after the first three or four days of the puerperium, when they are derived from the involuting uterus.

With regard to occurrence of albumin in the urine and its significance, there is an amazing difference of opinion. Its frequency has been variously estimated by different workers.

The following statistics are given by different German authorities: Meyer, in 76 parturient women found albumin in 40.78 per cent.; Litzmann, in 100 parturient women found albumin in 43.7 per cent.; Löhlein, also in 100 parturient women found albumin in 37 per cent.; Flaischen, in 537 parturient women found albumin in 16.9 per cent., and Winckel, in 367 parturient women found albumin in 19.4 per cent.

These percentages are noticeably higher than those given by leading French obstetricians. Thus, Pinard states that out of 1249 parturient women in the Baudelocque Clinic in 1890, only 73 cases of albuminuria—6 per cent.—occurred: of these *slightly less than 3 per cent.* were associated with pregnancy, the rest with labor.

So far as may be gathered from more recent observations, it may be stated that serum-albuminuria occurs in about 2 per cent. of all pregnant women who are healthy at the beginning of pregnancy. The process of labor causes albuminuria in a still larger percentage of cases. Aufrecht found it was produced in 18 out of 32 women examined; Ingersley in 50 out of 153 cases of labor. It is most frequent in women during the first pregnancy, especially in those who are no longer young or in those who are very young. Of all cases it is belived to be most associated with the presence of more than one fetus *in utero*. It occurs mainly in advanced pregnancy, only rarely in the early months.

What is the significance and explanation of this albuminuria of pregnancy? Is it, as some hold, a physiologic process of no importance, or is it to be regarded as many authorities consider it, as the result of pathologic changes induced in the cortical portions of the kidneys? In favor of the former view may be adduced the cases of healthy men and non-pregnant women in whom a temporary albuminuria may be caused by various factors, e. g., changes in temperature, food, exercise, etc. The investigations of the late Grainger Stewart undoubtedly appear to justify the view that there may be an albuminuria, which is to be regarded as a physiologic peculiarity and not the indication of a pathologic process. *A priori*, then, it must be conceded that a like explanation may suffice for some cases of the albuminuria in pregnancy.

Regarding the view that a morbid process in the cortices of the kidneys is the essential cause the following facts may be stated: *In very many cases of albuminuria other signs of renal diseases may be present.* Thus edema may be frequently met with. Winckel's statistics may be noted: In 1874, in 319 pregnant women edema occurred in 20 per cent: in 1876, in 1058 pregnant and parturient women it occurred in 4.35 per cent.: in 1877, in 1091 pregnant and parturient women it occurred in 6.96 per cent., and in 1878, in 1050 pregnant and parturient women it occurred in 5.52 per cent. Leyden is of the opinion that anasarca is [illegible] common than albuminuria and that wh[illegible] the edema has appeared first. Then often a deficiency in the quantity of urine passed and in the total solids excreted. But most important of all is the occurrence in the urine of various formed elements, viz.: casts and blood-corpuscles. Fischer, who has given much attention to this subject points out that these are mostly found in the last weeks of pregnancy, when they often show progressive increase. Hyaline casts are frequent, while granular and epithelial ones and broken-down epithelium may also occur. Red blood-corpuscles and leucocytes may be passed continuously or at intervals.

---

* Read before the Chicago Medical Society.

Now, as to the relationship between the above findings of physical examination on the living subject and those obtained by post-mortem investigation it is impossible to speak with absolute certainty. The great majority of such patients do not die and, comparatively, only a small number of post-mortem studies have been made. There can, however, be no doubt that sufficient work has been done to establish the probability that renal cortical lesions generally occur, though with a considerable range of variation.

The most frequent changes found are as follows: The kidneys are enlarged and less firm than normal; the cortices are swollen, anemic and of pale gray color; cloudy swelling and granular changes are found in the cells of the tubules and, often, fatty degeneration. In a small number of cases it is certain that the kidneys may not recover from this condition after labor, but may pass into a permanent, true parenchymatous nephritis. In the majority of instances, however, there is every reason to believe that they may be restored to their normal condition in a short time. Olshausen has described an interesting case in which the urine contained abundant albumin, casts and blood-corpuscles at the time of labor, eclamptic phenomena being also present. The patient died five days after delivery and at the post-mortem examination no changes whatever were found in the kidneys.

Of extreme interest is the consideration of the etiology of the albuminuria and renal changes above described. The subject is an extremely difficult one and has been the occasion of much speculation and much polemical writing. Only a brief reference to the most important views is here possible.

Compression of the ureters.—Halbertsma of Utrecht, from his studies of eclampsia, believes that increased intra-abdominal pressure due to the pregnant uterus, may by interference with the functions of the ureters, lead to alterations in the renal structure. He thinks that the special tendency to these alterations in primiparæ, hydramnios, multiple gestation, contracted pelvis —in all of which the pressure is increased—strengthens his view. Ries, holding somewhat similar views, believes that in some cases compression of the ureters by the presenting part of the fetus is the most important factor. These views have not been accepted by most authorities. Halbertsma's statement that dilatation of the ureters is frequent in such cases has not been corroborated. Olshausen found dilatation only seven times in 37 post-mortems.

For my own part, I believe that too little attention has been given to the opinions of Halbertsma and Ries.

While it is true that the anatomic relationships of the ureters are such that they are generally protected from the pressure of the pregnant uterus or its contents at any special point, the possibility of an abnormal pressure over a considerable extent of the ureters in certain cases can not be denied. Though the projecting vertebral bodies are the main safeguard from pressure on the ureters, they can not entirely protect it. My frozen sections and casts of pregnant women show that the enlarged uterus moulds itself accurately along the spine and on each side of it. At the brim this moulding is particularly well shown. In conditions of tense abdominal wall, such as is found in young or old primiparæ, or of abnormally large uterus, as in hydramnios or multiple pregnancy, it is very evident that the general pressure on the ureters must be increased. In the late weeks of pregnancy, as is well known, the fetal head lies in the pelvic cavity in primiparæ, and, if the pelvis be justo-minor or funnel-shaped in type, or the head be abnormally ossified or enlarged, the ureters can scarcely escape being unduly compressed against the pelvic wall. Even though in these various conditions there may not be a local interference with the flow through the ureters, there may be produced a paresis of their walls, as Halbertsma first suggested, leading to a marked weakening of their peristaltic action.

The earlier critics of this worker pointed out that the pressure theory could not explain the cases in which renal disturbances developed in the puerperium. My recent studies of the puerperal woman by means of frozen sections supply a very evident explanation. I have shown that the post-partum uterus in its retracted and contracted condition fills the greater part of the normal pelvic cavity to such an extent as to form a ball plug compressing all extrauterine tissues firmly against the pelvic wall, interfering considerably with the circulation of blood through them. The ureters share in this compression. This condition of affairs lasts for three or four days, during which period renal disturbances mostly occur. The postpartum uterus varies somewhat in size and, therefore, if it be rather larger than normal or if the pelvis be justo-minor or funnel-shape in type, greater compression is produced. Ries, Halbertsma and others have shown that pelvic inflammatory exudates may cause compression of the ureters, and consequent renal disturbance in the puerperium. It is interesting to note, in this connection, that large fibroid and ovarian tumors, especially the former, are not infrequently associated with changes in the urine, kidneys and ureters similar to those found in pregnancy; and in some cases the renal function may be completely destroyed.

Finally, it is interesting to note certain experiments on animals: Aufrecht ligated a ureter in a dog and killed the animal three days later. The corresponding kidney was much swollen, its pelvis along with the upper part of the ureter distended. The cortical tubules of the kidney were damaged, being somewhat dilated, and containing abundant hyaline—fibrinous—casts, their epithelium showing granular and fatty changes.

Apart from compression of the ureters it may be that the kidneys themselves are so affected by certain degrees of increased intra-abdominal pressure as to undergo degeneration; or, it may be, that in the same manner the renal circulation is interfered with. Compression of the renal arteries or interference with the flow of blood in the veins is sufficient to induce albuminuria and degeneration in the kidneys if continued long enough.

Influence of the Products of Metabolism.—Virchow, in 1848, stated that disturbances in the kidneys during pregnancy were mainly due to the influence of altered body metabolism, and he pointed out the frequency with which the renal changes are accompanied by corresponding conditions in the liver. During the past fifty years different theories have been advanced to explain the nature of the alterations induced by the metabolic processes in pregnancy. At the present time the majority of authors hold to this theory in a general way, though there is very great divergence of opinion as to its actual application.

In pregnancy the increase in maternal metabolic activity is evident. This means a greater quantity of excrementitious matter to be eliminated. As the ovum develops fetal metabolism becomes a more and more important factor. Fetal waste products almost entirely enter the maternal blood by transmission through the walls of the villi from the fetal circulation. An extra burden is therefore thrown upon the maternal kidneys, and if they can not respond to the increased demand on their activity, they are apt to suffer. The waste products may exert a direct poisonous action on the cells of the tubules, or, indirectly, through their influence on the arteries in the kidneys; constricting them and thereby interfering with the nutrition of the tubules. The changes are believed to be similar to those found in such conditions as ptomain poisoning and acute yellow atrophy where the destruction of the kidney tissue may be very rapid.

The influence of the skin, lungs, liver and intestines aids in getting rid of the waste products of metabolism, and it is evident that interference with their functions will throw greater burdens on the kidneys. It is in pregnancy especially that these functions are apt to be interfered with. In most civilized countries a large number of pregnant women have a prejudice against cleansing the skin of the body. The production of albuminuria in a healthy dog by varnishing its skin is a well-known experiment. Then the tendency to irregularity in the digestive tract and to constipation in pregnant women is a very common one. Clinically, it is very easy to prove, in the albuminuria of pregnancy, that promotion of free action of skin or bowels, or of both combined may lead rapidly to a diminution in the quantity of albumin in the urine.

With regard to the influence of the fetal waste products it has been noted in cases of albuminuria that death of the fetus may lead to a rapid diminution or disappearance of the albuminuria, and this is believed to be due to the cessation in the transmission of the waste products from the fetus to the maternal blood. There is much speculation as to the nature of the waste products which exert the destructive influence. Various subjects are mentioned, e. g., leucomains and ptomains formed in the bowel and reabsorbed when the bowel action is faulty; also creatin, creatinin, inorganic salts of potash, various alkaloidal products of digestion, etc.

The extent to which the kidneys may be affected depends, therefore, on a variety of factors. In the majority of cases in which they are affected, no permanent damage results nor do serious complications arise. In a certain number of cases serious renal diseases may be induced, and in a considerable number of cases where the disproportion between circulating poisonous waste products and rectal excretory action becomes too great, the serious phenomena known as eclampsia supervene, the woman's life being greatly endangered.

As might be expected, a number of workers have advanced the view that the main factor in producing the toxemia of pregnancy is microbial infection. Some have found germs in the blood, some in the kidneys, others in the placenta. In some cases cultures injected into animals produced general toxemia and changes in the kidneys resembling those found in the altered kidney of pregnancy. Other workers have obtained negative results.

While it is impossible, at the present time, to postulate any well-ascertained results regarding the relationship of micro-organisms to the toxemia of pregnancy, in view of such experiments as those of Doléris and Poney, Blanc, Favre, Gerdes and others, and in the light of Adami's recent work on subinfection, it can not be denied that in some cases of pregnancy-toxemia, the important agent may be some form of microbe, and that in their effort to destroy and remove the organisms, the kidneys may be so affected as to undergo the pathologic changes to which I have already referred, with consequent accompanying alterations in the urinary secretion.

Finally, after reviewing the most important theories advanced by those who have worked in this difficult sphere, it must be admitted that much is to be said in favor of each. Indeed, it is highly probable that something of the truth is contained in all of them, that in most cases no single factor is causal, but rather a combination of various factors, these varying greatly in different instances. The most important of these is undoubtedly the toxic element. Only from such a standpoint is it possible to group into an intelligible synthesis the heterogeneous clinical phenomena and physical changes found in the abnormal condition of pregnancy under consideration.

Nephritis.—Where true nephritis exists before or begins in pregnancy, the disease, as a rule, is a more serious matter than in the non-pregnant state and the prognosis is unfavorable. In the case of chronic nephritis, an acute exacerbation is usually induced. The patient may die from kidney failure, and uremia is very apt to occur. Only in a small percentage of cases are the phenomena of eclampsia noted, as has been pointed out by Fehling and Leyfert.

As regards the influence on the course of pregnancy the tendency to premature emptying of the uterus is to be particularly noted. According to P. Müller it occurs in more than 40 per cent. of cases. It is attributed to various causes, viz.: hemorrhages into the placenta, causing infarcts and destruction of portions of the chorionic villi, or separation of the placenta. The fetus may die as a result of the accumulation of toxic material in the system, and this is an important cause of the premature expulsion. The fetal mortality is very high. Hofmeier noted that the fetus died in twenty out of twenty-three cases of nephritis. Braun has estimated the mortality at 80 per cent.

Treatment.—The treatment of a pregnant woman with symptoms pointing to disturbed renal functions is to be carried out on the lines followed in the non-pregnant state. The strictest watchfulness on the part of the physician is necessary. With regard to the question of allowing the pregnancy to continue, it is difficult to decide. There are, however, certain indications which point imperatively to the induction of premature delivery, in the interests of the mother, viz.: visual disturbances, and continued headache, pulmonary or other marked edema, marked cardiac disturbance, frequent nose-bleedings, continued increase in the casts and albumin in the urine, uremia. In a number of cases the woman may respond to treatment so satisfactorily as to go to full term and be delivered of a healthy child.

BIBLIOGRAPHY.

Adami: On Latent Infection and Subinfection, 18[illegible].
Aufrecht: Centralbl. f. Klin. Med., Bd. xiv.
Bouchard: Lecons sur les Autointoxication dans les malades, 1[illegible].
Blanc: Pathogénie de l'eclampsie: Arch. de Tocol., T. xvi, xvii.
Doléris and Poney: Comptes Rendues de la Soc. de Biol., July, 1[illegible].
Dührssen: Archiv. f. Gyn., Bd. xlii, H. 1 and 3.
Favre: Des causes de l'eclampsie puerp.; Soc. obstet. de France, 1[illegible].
Fehling: Centralbl. f. Gyn., 1892; Archiv. f. Gyn., Bd. [illegible]
Flaischen: Ueber Schwangerschafts- [illegible] tschr. f. Geburts. u. Gyn., Bd. viii, H. 2.

Freund H. W.: Ergebnisse de allegemein. Pathol. u. pathol. Anat., Lubarsch u. Ostertag, 1898.
Fischer: Prager Med. Woch., 1892.
Gerdes: Munch. Med. Woch., 1892.
Hofmeier: Zeitschr. f. Geb. u. Gyn., Bd. iii, H. 2.
Halbertsma: Volkmann's Vorträge, No. 212.
Ingerslev: Zeitschr. f. Geb. u. Gyn., Bd. vi, H. 1.
Löhlein: Zeitschr. f. Geb. u. Gyn., Bd. vi; Centralbl. f. Gyn., 1892.
Meyer: Centralbl. f. Gyn., 1891; Zeitschr. f. Geb. u. Gyn., Bd. xvi.
Olshausen: Samml. Klin, Vorträge, No. 39.
Rivière: Pathogénie et Traitement de l'autointoxication eclamptique, Paris, 1888.
Ries: Klinisch-experimentelle Untersuchungen über Schwangerschaftsniere; Dissert., Strassburg, 1888.
Stewart, Grainger: Albuminuria, 1888.
Virchow: Der puerperal Zustand; Gesammelte Abhaundl.
Webster: Anatomy of Advanced Pregnancy and Labor; Laboratory Reports, R. C. P., Edin., vol. ii; Researches in Female Pelvic Anatomy, 1892.
Winckel: Berichte u. Studien, Dresden, 1876.

DISCUSSION.[1]

Dr. James B. Herrick said, with reference to the patchy character of the renal changes, that it seems to him that this offers a possible explanation in some cases of so-called functional albuminuria. It is difficult to explain why in certain cases patients have albumin in the urine at a certain hour of the day, after a little exertion, after a particular kind of meal, etc., and yet it is conceivable that in some of these cases only very small areas of the kidney are diseased. These areas are not extensive enough to produce the cardiovascular changes that accompany nephritis.

As to the paper of Dr. Webster, it seems more probable that toxemia has more to do with the production of albuminuria of pregnancy than has pressure, and the facts cited by Dr. Webster lend color to that theory. The carelessness regarding excretion through the skin in pregnancy; the very commonly-met-with constipation; the increased and altered metabolism; the very commonly-met-with digestive disturbances of the stomach and of the intestines, and the fact that the pregnant mother has to eliminate for the child as well as for herself, etc., all lend color to the toxemic theory and make it more attractive than the pressure theory.

Referring to the treatment, Dr. Herrick confessed that the more of these patients he sees, the more it is impressed on him that it is a safer procedure to empty the uterus early. Senator's definition of functional albuminuria was given. On the slightest increase in the albuminuria, in spite of treatment, on the indication of uremic manifestations, whether they be in the form of a persistent headache, amaurosis, nausea and vomiting, or what seems to him a valuable and significant symptom, a severe epigastric pain, even without nausea and vomiting, on the appearance of edema of the face, which can not be ascribed to pressure, he believes it is always a safer plan to empty the uterus. While this may not be in accord with the teachings of obstetricians, yet he has never regretted emptying the uterus early.

Speaking of the paper of Dr. Davis and of the etiology of nephritis, he believes the intestinal tract is frequently at fault. This fits in with the toxemic theory of the origin of many cases of nephritis. The diet depends not so much on the percentage of albumin that may be in the food as on the way in which the alimentary tract handles the food. In other words, the diet should depend more on the condition of the alimentary tract than on the food itself.

Referring to the intermittent administration of milk as a diet in chronic diffuse nephritis, he spoke of an acquired tolerance of the kidneys for certain kinds of food. We have a patient, for instance, with chronic nephritis, who is constantly passing albumin; on feeding him with certain kinds of food the amount of albumin increases. On the other hand, put the patient to bed, give him a very restricted diet—a pure milk diet—for a time, and the amount of albumin begins to diminish. The kidney is having a rest, and after a rest of three or four, or possibly six or eight, weeks the patient tolerates articles of food that he could not before tolerate. He can now be given a mixed diet, with perhaps a liberal amount of meat, and the percentage of albumin will not be increased in a way that it would be formerly.

Dr. N. S. Davis, Jr., in closing, said that his attention had been drawn to the effect of the condition of the alimentary tract in the production of albuminuria and the appearance of tube casts in the urine, because of the frequent finding of either tube casts alone, or albuminuria alone, or the two combined, in all sorts of maladies in the more acute stages. However, this condition is usually transitory. There is not really produced a genuine nephritis in these cases, but simply a moderately disturbed functional activity of the kidney, and yet enough to produce these symptoms. He has seen them repeatedly in connection with digestive disorders, and in connection with simple and chronic bronchitis, as well as other maladies observed in hospital practice. A study of the records of hospital laboratories would reveal the fact that in a large proportion of the patients who enter hospitals traces of albumin, or tube casts, are found, which disappear—at once, and usually permanently—from the urine as soon as the intestinal tract is thoroughly emptied and the patients are placed on a simple diet that is well assimilated and well digested by the stomach and bowels. These facts have impressed on him the relationship of the condition of the alimentary tract and digestion to the production of nephritis. It is not the only cause, but simply one of the causal factors of renal troubles.

THE EVOLUTION OF THE ANIMAL CELL.*

BY JOSEPH SMITH, M.R.I.A., F.L.S., F.R.S.A., (Ireland).
WARRINGTON, ENGLAND.

The phenomenon of life, and the interesting features grouped around it—whether examined in relation to either of the subkingdoms, vertebrates or invertebrates, constituting the animal kingdom, or to the vegetable world—while furnishing a wide scope for physiologic research, offers matter for serious and thoughtful speculation. It would be impossible to underrate the diligence with which questions of great import relative to vital phenomena have been examined by the earlier biologists, and the results attained; and because many of their conclusions have of late years been demonstrated to be inaccurate, none the less must their labors be appreciated. Such conclusions, however, must be considered in the light of *cruces*, which brought about the evolution of physiologic research. Aristotle, in his great work on anatomy, wrote concerning *partes simulares et dissimulares*, and years afterward, Fallopius discussed the nature of tissues; yet the ideas of these philosophers on tissues, especially those of the human body, were faulty and superficial, and the doctrine of elementary structure, whether in plants or animals, did not excite the serious attention of morphologists previous to the middle of the seventeenth century. At that period the structure of the various animal and vegetable bodies began to excite greater attention, since Malpighi had superseded the simple lens by the simple microscope as an accessory in all anatomic inquiries. This was a decided advance on the earlier methods of investigation, but it would appear no general advantage was attained until the commencement of the eighteenth century, when improvements in the optical parts of the microscope placed at the disposal of the biologist the means to the end. In the meantime we find Leeuwenhoek, a Dutch physician, had been investigating embryology. Rusch had worked at the same subject to the neglect of the great branch, histology. Later, however, Lieberkuhn, Fontana and Hewson devoted attention to this branch, and many facts hitherto unknown were for the first time brought forward and laid before the scientific world for consideration.

---

[1] The paper by Dr. N. S. Davis, Jr., was printed elsewhere and is abstracted in our Current Medical Literature Department, this week, 72.

*Presented to the Section on Physiology and Dietetics at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Harvey, at the commencement of the present century, enunciated his great axiom, now universally accepted, *omne vivum ex ovo,* as being the fundamental or keystone of the arch on which the development of all animal life rested, but beyond the bare proposition of his theory he was unable to go, and so it remained until some years after his death, when the value of his theory was proved.

In the infancy of biological research the most insurmountable difficulty requiring elucidation was the method of propagation, more correctly speaking, the development of the various species, since in the after phases the question was one fraught with complicated and almost incomprehensible problems. Not only did these difficulties surround the higher differentiated animals, but they were common to the lower organisms of the invertebrates, and amongst which they became more inexplicable. Originally, these difficulties probably arose from the adoption of some of the earlier theories enunciated and accepted to explain the vital problem, for example, spontaneous generation, which taught that all vitality arose spontaneously, assuming and perfecting development in some way equally as mysterious and spontaneous as was the generation, while the want of appreciation of the vast difference existing between the protozoon and metazoon cells only tended to increase and complicate the difficulty. While recognizing that vital phenomenon originated in a so-called cell, the fact that cells could not arise without the aid of pre-existing ones was overlooked, consequently theories had to be elaborated to explain the beautiful phenomenon of propagation of cells necessary for the purpose, which being based on false premises resulted in opposite conclusions. Schwann,[1] however, first applied the cell theory to the development of animal tissues about 1837; Von Mohl had previously written his work on the cell theory of the vegetable world, pointing out that it was by the various changes which took place in these cells, and the evolution so brought about, that the tissues of the animal body were formed, while Marshall,[2] alluding to this development, affirms that the "differences in the different tissues and organs of plants and animals depend on differences in the chemical and physical activities of the constituent cells."

Schwann assumed that cells might arise in the surrounding matrix or blastema independently, but Godsir, in 1845, clearly showed up the fallacy of all preceding theories bearing on this point, and once for all set at rest speculation by defining the doctrine that cells could not develop or originate without the existence of pre-existing cells, and from which they arose by fission.

In Reenak, Kölliker and Virchow this advanced theory found very able and prominent supporters, and a much-vexed question being set at rest a further development was the result, which Marshall regarded as "one of the grandest generalizations, and the soundest established in morphology." This was the discovery of the mammalian egg, or ovum, by Von Baer. He demonstrated this ovum to consist of a nucleated cell of complicated structure, constituted of two parts, the inner part termed the nucleus, the center of vitality—on this the cell depends for segmentation and aggregation—and the outer or surrounding elementary matter. This was termed the cell slime or protoplasma, a compound of carbon and nitrogen, of efficiency on that period arriving when the potentiality of the nucleus begins to assert itself for the segmentation and consequent aggregation of cellular life, which ultimately reasserts itself in the adult individual. The shape of the nucleus is varied: it is sometimes round, and oftentimes it is oval, even assuming a spheroid. In constituency it is similar to the surrounding elementary protoplasma, generally slightly more solid, never softer than the cell slime, which remains throughout its existence in the same state of density. The core and the protoplasma are the two essentials of all existence. Every other particle of matter is subservient to these two great elements, the histic, or constituting factors of the cell. They must be regarded as passive, that is to say, in a state of quiescence, having been assumed from without in the active bearing of the protoplasm, or formed by the interchange of movements through which this beautifully constituted attribute of life is continually passing. Life or vitality therefore depends on the growth and development of this original animal cell or ovum.[3] It must not, however, be assumed that the cell remains in a constant passive state, that is remains in one continual phase of quiescence. It is an organism of very complicated evolution, and passes through exceedingly interesting physiologic phases in its progression to the complete stage, when it is perfected for the consummating act which releases its embosomed vitality, for which the working of a complicated development has been preparing it.

One of the earliest features in the development is the action of the protoplasm, so important in the economy of cell life. During the progressive formation of the cell contents, a small central point, or pip, becomes observable; this is of equal importance to the elementary body as is the protoplasm. It is the vesicle or nucleus, and was first observed by Purkinje, in 1825, when following out some investigations on the fowl's egg. Further researches eventually accomplished what had hitherto been suspected, and demonstrated that this vesicle, which had been considered a structural formative vesicle containing a smaller nucleus, in other words a small cell within a large one, was actually a fact. Shortly after Purkinje's discovery, R. Wagner made the fact, that within the nucleus there existed a nucleolus or germinal spot, clearer. The acquisition of this knowledge regarding the structure of the ovum again assisted in complicating matters, for we then became aware that the nucleus is possessed not only of a very complicated structure, but has, in a sense, a curious and internal evolution of its own,[4] since its vitality depends far more on certain substances, the arrangement of which may vary considerably according to the condition of the nucleus, whether in an active or quiescent condition, than on its shape. Hertwig,[5] alluding to these features, remarks: "It is necessary to state at the commencement of my observations as the most important point in classifying the various nuclear forms, that they all possess a certain uniformity in composition, whether the nuclei of animals or plants, or Protista be under examination, it is invariably seen they are composed of a larger or smaller quantity of material which I shall call nuclein substance—nuclein."

The nucleus is not now termed a vesicle within a cell, the definition of Schwann and Schleiden, but it is described as a "portion of a special substance which is distinct from the protoplasm, and to a certain extent separate from it, and which may vary considerably as to form, both in the resting and actively dividing condition."[6] The great difficulty does not arise in formulating the definition of a nucleus, but in describing the vital substances which are contained therein, just as in defining the cell, the greatest difficulty arises in describing the protoplasm.

The nucleus is constituted of a mass of [illegible] culiar to it, differing from protoplasm [illegible] able from it.

When the ovum has attained maturity, a feature of the utmost interest begins to reveal itself, and this phase may with certainty be regarded as the completion of the cycle of cell evolution. The process is enigmatic, and several theories have been set on foot to explain it. The nucleus of the ovum, up to this period of maturition generally central, now moves, changes considerably in structure, and after a short duration divides. A minute cell with a small amount of protoplasm is given off with the nuclear matter, and a short period of quiescence follows. Then that portion of the nucleus remaining in the ovum duplicates the process, and another minute cell is similarly expelled. The process is termed the extrusion of the polar globules or bodies, and although the phase has not so far been demonstrated in the ova of reptiles and birds, and is rarely observed in those of fishes and amphibians, it is very probably a feature of universal occurrence.

For a long period it was regarded as absent in Arthropods, but the investigations of Weissmann,[7] and amongst others Blockmann,[8] in this direction, clearly established the process taking place. The small cells or globules linger for a time on the outer membrane of the ovum, leading a kind of parasitic existence, but eventually they swage away. Some question has been raised as to the exact period at which the extrusion of the polar globules takes place, but as a general rule, since the remaining female nucleus is now ready to unite with the nucleus of the spermatazoon, it heralds the essential moment of fertilization, and correctly so, since the process is one of the greatest importance in cell structure.

In parthenogenetic ova the same regulation is not observed; from these structures only one polar globule is extended in place of two, a fact demonstrated by Wiessmann,[9] and Ishikawa,[10] in a series of cases amongst the *Daphnia, Ostrocoda and Rotifera.* The rule of extending one polar globule only is, on eminent authority, assumed to be general amongst this class of ova. Blockmann[11] has succeeded in showing that in non-parthenogenetic eggs of insects, two polar globules become extended, as likewise has Platner.[12] Further, it has been demonstrated that in the parthenogenetic ova of the plant louse, and aphis, one polar globule exists, and one only, in such instances the usual feature of parthenogenetic development being prominent. Eggs, however, developed after fertilization has taken place, follow the law of non-parthenogenetic ova, and extrude two polar globules. The subject of parthenogenesis is one which can only be casually alluded to at the present moment, and surrounded as it is by extremely interesting phenomena, it offers a field of the widest scope for study. One of the phases is the difference existing between parthenogenetic ova and ova which require to undergo the act of fertilization before producing offspring. This difference has been worked out, and is found to exist in the formative matter of the polar bodies themselves, for while in the natural ova two polar bodies are divided off as previously described, in parthenogenetic ova "development of the second polar cell and consequently reduction of the nuclear substance, which is otherwise connected with the process, does not occur." Hence the summer egg of a Daphnia possesses, without the assistance of the fertilizing sperm, that nuclear potentiality in the normal nucleus which enables it to develop.

The ova of many animals, if not fertilized, commence to develop parthenogenetically at the normal time for such process to make itself active, and attempts have been made by the ova of many worms, echinoderms, and certain arthropods, to so develop: even the ova of some of the vertebrates, e. g., birds, in the absence of the male elements, have commenced this mode of development, and began to segment, eventually forming the germinal discs. In support of this peculiar phenomenon Hertwig gives the following remarkable occurrence, which was observed by Boveri during the formation of the polar cells in Nematodes and Pterotrachea, and by himself in *Astera anthron.* "After the separation of the first polar cell, that half of the spindle which was left behind in the ovum, develops into a complete spindle again just as if the second polar spindle was going to be divided off. However this does not occur, for the second spindle only divides into two nuclei, which remain in the ovum itself. After some time they fuse together in this place, and drifting toward the middle of the yolk again produce a single nucleus, as it were by self fertilization. By means of this nucleus the parthenogenetic processes which quickly follow are introduced. Thus in this case, the second division, the purpose of which is to reduce the nuclear mass and to prepare it for subsequent fertilization, is abortive. That by this means no sufficient compensation is made for the absence of fertilization is evident from the subsequent course of parthenogenetic process of fertilization; i. e., from the more or less premature death of the ovum.

"From the circumstance that in parthenogenetic development the formation of the second polar cell does not occur or is abortive, we might conclude that development invariably becomes impossible after the nuclear mass has been reduced to one-half of its normal amount, unless a fresh stimulus is given to the organism by means of fertilization. However, at present this conclusion, which perhaps contains some truths, can not be said to be applicable generally; for Platner,[13] along with Blockmann and Hewking, has observed that the ova of certain Arthropods—*Liparis dispar,* Bees—develop in a parthenogenetic manner into normal animals, although like ova which require fertilization, they have produced two polar cells. In these cases a more careful investigation of the circumstances with reference to the number of nuclear segments is certainly desirable.

"Hence at any rate, it must be admitted, that it is possible for ova, which contain reduced nuclei as a result of the formation of the two polar cells, to develop further in a parthenogenetic manner, for nuclei which contain a reduced amount of nuclein have in no way lost their capacity for division, as may be easily supposed. An experiment conducted by Richard Hertwig and myself,[14] on the ova of the sea-urchin, proves this in a striking manner. By shaking the ova of sea-urchins violently, they can be split up into small portions, which do not contain nuclei; these then become globular, and exhibit signs of life for a fairly long time; further, they may be fertilized with spermatozoa. By this means we can definitely prove that the sperm nucleus, or as is more frequently the case, the sperm nuclei, which have penetrated into one of the fragments of the ovum, become metamorphosed into small, typical nuclear spindles with a radiation at each pole. The sperm nucleus now splits up into daughter nuclei, which for their part multiply by indirect division, so that the fragment of the ovum breaks up into a number of small embryonal cells. Boveri[15] has pursued this observation further, and has discovered the important fact, that out of rather a large non-nucleated fragment of an ovum, which has been fertilized by a single spermatozoon, a normal although proportionately small larva can be developed."[16] Several theories have been submitted to explain this interesting phase in cell evolution—the extrusion of the polar bodies

—but the researches of such naturalists as Butschli, Hertwig, Giard, Fol and others who have practically investigated the question, prove the extrusion of the polar bodies to be a case of cell development or budding. On the other hand, Van Beneden, who, since the above conclusion was adopted, undertook his investigations on the ovum of the thread-worm, *Ascaris*, criticises the conclusion that the phase is a feature in cell division, and considers it to be a unique process in the development of the ovum, but Boveri and Zacharias adhere to the older view, and in this they are supported by other naturalists. Now, although the structural fact is certain, so far no unanimity exists as to what such a process means, and the end to be attained, but apparently three opinions on the matter exist, each of which receives the support of eminent naturalists. By some the egg cell is regarded as a hermaphrodite form, and such hold that the extrusion of the polar globules is the elimination of the male element. Balfour strenuously adheres to this view and expresses himself in these words: "I would suggest that in the formation of the polar cells, part of the constituents of the germinal vesicle, which are requisite for its functions as a complete and independent nucleus, is removed to make room for the supply of the necessary parts to it again by the spermatic nucleus. . . . I will venture to add the further suggestion, that the function of forming polar cells has been acquired by the ovum for the express purpose of preventing parthenogenesis." This suggestion has, however, been disproved, for parthenogenesis is not by this extrusion checked. Minot speaks on the matter thus: "In the cells proper both sexes are potentially present, to produce sexual elements the cell divides into two parts, in the case of the egg cell the male polar globules are cast off, leaving the female ovum." He maintains that since in parthenogenetic ova only one polar body is extruded, sufficient male element is retained to enable the ovum to develop. Van Beneden also regards the polar bodies as male elements.

Others consider the formation of polar globules as an atavistic "reminiscence of primitive parthenogenesis," and this is the view adopted by Buschli. He is supported in it by such an authority as Hertwig. Boveri also regards the polar globules as "abortive ova." This view, however, is more morphologic than physiologic. On the other hand, Weissmann adopts a view quite opposed to either of the preceding; his theory, however, embraces a great amount of hypothesis; some of his assertions are merely assumptions, not being substantiated by any evidence whatever. He advocates the idea that in the nucleus of the ovum two species of plasma exist, the one which enables the ovum to accumulate yolk matter and secrete membranes—these he styles the ovogenetic or histogenetic substance—the other the germ plasma which is requisite to enable the ovum to develop the embryo.

When the ovum becomes mature the ovogenetic substance has fulfilled the purpose for which it was generated, and becomes expelled as the first polar body. This is all that takes place in the parthenogenetic ova. The second polar globule or body is the reduction of the germ plasm which divided, and is reduced by half its volume to be made up for by the addition of the sperm, but a similar reduction—the extrusion of the second polar body—must also take place in the sperm cell.

The changes to which the normal ovum has in the meantime been subjected, and through which it has passed, have greatly reduced its size, but the functional properties are in no way modified in their complexity, nor is the number of its chromatic elements. This is the last stage of its evolution, and in this, its perfected condition, it awaits the consummating act which releases the inherent potentiality, and introduces fresh phenomena for our consideration in the series of changes which follow on the act of fertilization.

This development of the animal cell, although a highly functional reproduction, has its prototypes in several species of the animal kingdom, for example reproduction or further development of parts is common. Thus in the crab, a potentiality exists in the cells, which exhilarates the growth or replacement of a claw lost through accident or other cause; a starfish possesses the inherent power of reproducing lost parts, the potentiality in some instances being requisitioned for providing the means of defense. As an example, the brittle stars, Ophiura, when seized with fear, defend themselves by the voluntary casting of the arms, and afterward the parts lost become renewed. This power of regenerating lost members is not confined to the lower orders; it exists amongst the lizards, many of which can make good the loss of arms and tails. In the Hydra, and amongst the Coelenterata, the process of budding is in evidence—another feature of the exercise of this potentiality—not only for the purpose of renewing the organism, but likewise for the legitimate purpose of propagating the species, while amongst the Protozoa an almost mechanical disintegration takes place, which in the after series of changes becomes more definite, hence "orderly division, both multiple and binary," may be traced to the process of budding.

In the ovum we have the potentiality or inherent power existing which, granted certain conditions, will give rise to cellular division, but in these instances of reproduction amongst multicellular animals, we must not overlook the factors involved in such reproduction, and moreover we must be quite clear as to their concurrent working. Physiologists[17] tell us that special reproductive cells, which are *dimorphic*, are present in more or less *marked contrast* to the ordinary cells making up the body; the organisms which produce them are distinguishable as male and female, and are mutually independent.

If the egg cell or ovum is to develop into an individual, it must in the first instance undergo fertilization by a male element. Now fertilization takes place in a diversity of ways, in some instances the fertilizing elements, or sperm cells from adjacent males, are introduced into the female by means of the current set up by the action of the cilia for the purpose of bringing the nutritive elements into contact with the ova. Amongst some of the Hydrozoa the sperm cell adopts a wandering career, eventually fertilizing an equally bohemian ovum. Most fishes deposit virgin ova in suitable places, and in due course the ova so deposited are fertilized by the male shedding the melt on them. With the majority of animals, however—insects and the higher vertebrates—copulation, which is a union with the female takes place, the spermatozoa passing from the male organs into the female. They make their way up the female ducts and soon meet ova liberated from the ovary, which they fertilize; or they may remain for a long period awaiting the favorable opportunity of contact, or eventually perish from the lack of such occasion. Yet a variety of methods exists even under these circumstances, for the sperms after discharge may be stored in a receptacle specially adapted for the purpose, and in which they are retained until demand is made on them, by the passage of the ova down the ovary: or some such similar action releases them from the receptacle to consummate a
the spermatozoa have, in any of the above
into close proximity to the ovum, a stro

evidently of attraction, is set up between the separate elements.

Although it has often been suspected that this attraction, illustrated by the union of two filaments of Spirogyra, may have been set up along a line of osmotic current, brought about by the presence of glucose, or some such other substance in appreciable quantity in the water, investigations undertaken to substantiate such suspicions were not fortunate. Rolph describes the spermatozoa as being in so weak and starved a condition that a well-nourished ovum powerfully attracts the sperm cells, and in some instances arises to meet the spermatozoon, in the form of a small cone. This is the observation of Rolph, but the theory would suggest itself that in place of the spermatozoon being in such a condition as to be incapable of resisting the osmotic activity set up, and so become attracted to the ovum, the opposite activity would be really what takes place, for if the sperm is in that "starved" condition which Rolph assumes it to be in, the ovum would not show any attracting influence in the shape of a small excresence or core on the surface. Assuming the opposite to be the case, and the sperm to possess that strong potentiality with which these elements are endowed, we should expect to find what actually takes place, namely that when the spermatozoon falling under the osmotic influence comes into close proximity to an ovum, its potentiality is such that mutual attraction arises, most emphasized by the small swelling or excrescence in the female organism, which possesses a powerful affinity for the male element. Again, the theory of attraction of the female element by the spermatozoon would appear more feasible on the grounds, that even in the opposite case a batch of spermatozoa in close proximity would not unfrequently find access to the ovum, as was the general belief. The researches of Hertwig and Fol have, however, set this suggestion at rest, and it is now clear that only one spermatozoon affiliates with the ovum, so that as soon as this union takes place access to all others is prohibited. It is, therefore, safe to assert that the female organism is only receptive to one sperm, and that as a rule "the entrance of more than one sperm is impossible." But just as exceptions in other phases of animal development exist, so in the instance of impregnation of the ovum, we find in certain cases more than a single spermatozoon gains access to the organism. When, however, *polyspermy* does occur, only one sperm attains to activity and fulfils the law which brings about development, the others remaining imprisoned in some part of the ovum without further history.

Originally sperms were not considered necessary to the action of fertilization, but by degrees the activity of these organisms was gradually worked out, and their potentiality shown to be essentially necessary to produce the changes, which followed on the act being completed, for when absent from the fluid no changes took place in the ovum. Jacob, in 1784, succeeded in artificially fecundating the ova of salmon trout, and later Spellanzani was successful in similar experiments on the frog spawn; he, however, did not consider the spermatozoon as the factor which produced the after changes, but argued that such changes resulted from the potentiality of the fluid itself, which, when absorbed by the ovum, sets up the activity necessary for its further development. Other physiologists insisted on the sperms being the potential factors in fertilization—Prévost and Dumas in 1824; Leuckart in 1849—and Leuckart directed particular attention to the import of the sperm on such occasions. Kölliker, however, traced the spermatozoa to the testes, and Martin Barry had previously—in 1843—observed spermatozoa in the ova of the rabbit. The absorption of the spermatozoa by the ovum was observed in the water snail by Bischoff and Meissner, and the same feature is recorded by Newport as occurring in frog-spawn.

The question of sexual affinity has not escaped the attention of naturalists, and none the less interesting are the experiments which have been undertaken to explain the action of the phenomenon. Probably the most worthy of notice are the observations made by Englemann[18] on the conjugation of the *Vorticella microstoma*. In this species small male zoospores are formed by budding, and given off; these fertilize the large female individuals after the same fashion as true spermatozoa. On four different occasions Englemann was successful in tracing the bud after its separation from the mother cell, until it became united to another. He describes his observation as follows: "At first the bud always rotating on its longitudinal axis, wandered with fairly constant rapidity—cir. .6′ to 1 mm. per second—and as a rule in a fairly straight line through the drop. This lasted from five to ten minutes or even longer without anything especial happening: then the scene was suddenly changed. Coming by chance into the neighborhood of an attached Vorticella, the bud changed its direction, occasionally even with a jerk, and dancing like a butterfly which plays round a flower approached the fixed form; it then, as if it were feeling it, glided round about it, meanwhile always rotating on its own longitudinal axis. After this had been going on for several minutes and had been repeated with several fixed individuals one after the other, the bud at last attached itself to one of them, generally at the aboral end, near the stalk. After a few minutes the fusion might be deliberately observed taking place." On another occasion, he states, he observed a still more "striking physiological or even psycho-physiological exhibition. A free bud crossed the path of a Vorticella which was traveling with great rapidity through the drop, and which had abandoned its stalk in the usual manner. At the moment of meeting, although there was absolutely no contact, the bud suddenly changed its course and followed the Vorticella with the greatest rapidity; then a regular chase ensued which lasted for about five seconds. During this time the bud kept at a distance of about 1/15 mm. behind the Vorticella; however, it did not succeed in overtaking it, but lost it in consequence of its making a sudden side movement. Hereupon the bud continued its path in its original slower pace."[19] This latter observation does tend, apparently to weaken any hypothesis, that the spermatozoid is the element which attracts the ovum to activity, but in the instance recorded the phenomenon is exceptional, as is evidenced from the marked description Englemann gives of the event. If, however, we consider the phenomenon as supporting the theory of Rolph, viz.: that it is the female element which, for the purpose of fertilization, attracts a starved spermatozoon, we should expect the male element so reduced in energy, as to be unable to resist the attractive potentiality of the female cell, under whose influence it might chance to fall, and in the instance recorded the only result of such a meeting would, under the circumstances, be the absorption of the male element by the ovum. Fol[20] has also observed the *attractive influence which is exerted at a distance on animal cells*, for example, on the ova of the starfish; while Falkenberg from his observation on the attraction between the ova and spermatozoid of the *Cutleria*, concludes *that the attraction makes itself felt at a relatively* great distance, and states that this attractive force must have its seat in the cells themselves. Another feature is that such sexual affinity, or attraction, is only exerted between sexual cells of the same species. Experiments have been made which, to some extent, were confirmative of the characterization of Rolph, that the male cells are "hungry," and that consequently they are powerfully attracted by highly nutritive fluids. Granting the sperms be such highly katabolic cells, their long persistence of vitality presents some difficulty. Again, if the ovum concentrates, as suggested, that powerful influence of attractiveness on the starved sperm, we should anticipate, that if the sperm cell is attracted by the ovum, as is conjectured in the case of the Vorticella, it would attach itself at once, being powerless to resist, because of its state, and the powerful influence under which it was thrown. But no, it *gyrated* around the fixed form, Englemann emphasizes, after the fashion of a butterfly about a flower. This lasted some minutes, the sperm cell finally leaving the Vorticella and repeating the gyrating movements around several fixed individuals in succession, until it finally became attached and fusion was consummated. This gives a further share of feasibility to the conjecture that the sperm cell attracts the ovum, for the Vorticella being attached, it could not approach the attracting sperm cell, which would of necessity approach the fixed individual through the working of its own inherent attractive force. Zacharias has made a microchemical comparison between the contents of the male and female elements in characeæ, mosses, ferns, phanerogams and amphibians, and the comparison throws open a large field for work on the same lines. The male cells are distinguishable by the "small and absent nucleoli," and by the "rich *content of nuclein*," the female cell on the contrary exhibits great poverty of nuclein, and possesses an abundance of albumin, and one or more nucleoli, more or less large. The male cells have in relation to their protoplasm a larger nuclear mass than is present in the female elements. This comparative analysis would again suggest the powerful attractive influence as lying rather in the sperm cell, than entirely in the ovum, although further experiments and researches may probably prove this wonderful phenomenal attractiveness to be mutual. Further, Nägali[21] has suggested that the sexual attraction may be attributed tc the presence of electrical forces in the two elements. This, however, is merely conjectural, and it is better for the present to attribute sexual phenomena in general, "to the reciprocal action of two somewhat differently organized protoplasmic bodies," and to call this action sexual affinity. On this question we must content ourselves with the general expression, since so far, we have been unable to analyze those forces apparently so surrounded with an impenetrable mystery, which comes into activity. In this instance, Hertwig summarizes the matter as not being a simple phenomenon, but one of very great complication. This assertion of such an eminent physiologist should have great weight in urging those who possess leisure for the pursuit of such researches, to bring all their energy to bear on the elucidation of such a great and interesting embryologic problem.

BIBLIOGRAPHY.

1. Schwann: Mikroscopische intersuchungen über die uebereinstinmung in der structur und dem wachsthum der Thiere und Pflanzen.
2. Milnes Marshall: Manchester Microscopical Society. Trans., Feb. 6, 1890.
3. Science Gossip. Vol. iv. New Series, London. 1898. p. 252.
4. Evolution of Sex. Contemporary Science Series. London. 1899. pp. 99 et seq.
5. Hertwig, Rich.: Short essay which appeared in the "Beiträge zu. einer einheitlichen Auffasung der verschiedenen Kernformen." Morphol Jahrbuch., Bd. ii, 1876.
6. Hertwig: The Cell. p. 37.
7. "On the Number of Polar Bodies and Their Significance in Heredity," translated by Schönland. Essays on Heredity, translated by Poulton, Schönland and Shipley. Oxford, 1889.
8. Blockmann: Ueber die Richtungskorper bis Insecteneiern Morphol. Jahrb., Bd. xii.
9. Ueber die Bildung der Richtungskorper bei Theirischen Eiern, Berichte der Naturforsch Gesellsch., zu Friburg, Bd. iii, 1887.
10. Ueitére Untersuchungen zum zahlengesetz der Richtungskörper. Zoolog. Jahrbücher, Bd. iii, Abth. f. Morph.
11. Blockmann: Ueber die Richtungskörper bel Insecteneiern Morphol. Jahrb., Bd. xii.
12. Platner: Ueber die Bildung der Richtungskörperchen Biolog. Centralblatt. Bd. viii, 1888-1889.
13. Platner: Ueber die Bildung der Richtungskörperchen. Biol. Centralblatt, Bd. viii, 1888, 1889. Blockmann: Ueber die Zahl der Richtungskörper bei befruchteten und unbefruchteten Bieneneiern. Morphol. Jahrb., Bd. xv. Hewking: Untersuchlungen über die ersten Entwicklungsvorgänge in den Eiern der Insekten; Zeitschr. f. Wessenschaft. Zoologie., Bd., xlix, li, liv.
14. Hertwig, Oscar and Richard: Ueber den Befruchtungs und Theilungsvorgang des thierischen Eies unter dem Einfluss aüsserer Agentien. Jena, 1887, and Oscar Hertwig, Experimentelle studien am thierischen Ei vor, während und nach der Befruchtung.
15. Boveri: Ein geschlectlich erzeugter organismus ohne mütterliche Eigenschaften. Gesellsch. f. Morphol. u. Pysiol. zu. München, 1889.
16. The Cell Outlines of General Anatomy and Physiology. Translated by M. Campbell, and edited by Henry Johnstone Campbell, M.D., pp. 299-300. London: Swan Sonnenschein & Co. New York: Macmillan & Co., 1895.
17. Geddes and Thompson: Evolution of Sex, London, 1889.
18. Englemann: Ueber Entuincklung und Fortpflanzung von Infusorien morpholog. Jahrbuch, Bd. i.
19. Hertwig, O.: The Cell, Outlines of General Anatomy and Physiology, pp. 302-3. London: Swan Sonnenschein & Co. New York; Macmillan & Co., 1895.
20. Fol. Sur le commencement de l'hénogénie; Archives des Sciences phys. et Natur, Genève, 1877.
21. Nägali: Mechanisch-physiologische Theorie der abstummungslehre. München, 1884.

SUCCESSFUL PYLORECTOMY.[*]

BY H. O. WALKER, M.D.

DETROIT, MICH.

Mrs. M. R., aged 37 years, from whom I removed the pyloric end of the stomach, Dec. 10, 1898, had been the victim of stomach trouble for four years and, for six weeks previous to the operation she scarcely retained any food taken, and for the last two weeks none at all. Her general appearance was that of marked emaciation. The analysis of stomach contents revealed hydrochloric acid present (.1095), pepsinogen, rennet-zymogen, erythrodextrin, blood, mucus, sarcinæ, starch, and yeast. There was absence of lactic, butryic and acetic acids, and the Oppler-Boas bacillus. The tumor was moveable and readily palpable through the abdominal walls. Vomiting and pain had been the prominent symptoms.

Operation.—On December 10, commencing at 10:30, under chloroform, a median incision four inches in length was made and very little difficulty experienced in withdrawing the tumor through the opening. The growth involved the greater part of the stomach walls at its pyloric end, protruding into the pyloric orifice, although there was no apparent involvement of the pylorus, neither was there any apparent involvement of the omentum nor surrounding tissues. The next step was the ligature of the duodenum with gauze strips, one ligature being applied about two inches below the pyloric orifice, the other around the stomach at its middle. Only one tie of gauze was made, and this was held with a catch forceps to prevent its slipping. Between the points of the provisional gauze ligatures the omentum of both the greater and lesser curvatures of the stomach was ligated in sections, with No. 2 sterilized catgut. It was then clipped from its attachments.

By these procedures a perfect control of hemorrhage was obtained. The next step was the incision of that part of the stomach in which the growth was situated and beyond its confines, which included one inch of the du enum and about one-third of the pyloric end of the stomach. The cut end of the stomach was closed at its upper part, leaving at its lower an opening commensurate with the size of the lumen of the duodenum. The method of suturing was first a running stitch of No. 2, dry, sterilized catgut through the mucous membrane, fastening it at every third stitch, then covering it by sewing together the muscular and peritoneal coats in a similar manner. The opening was approximated in a like manner, by first fastening the cut edges at four points equidistant, thus avoiding puckering of the approximation. In order to be doubly sure, another row of suturing of the serous coat was made. The abdominal wound was then closed without drainage. The time of operation was one hour and twenty minutes.

---

[*] Read before the Wayne County Medical Society.

Although but little blood was lost by operation, the pulse became weak and rapid, necessitating a transfusion with normal salt solution, under both breasts and an injection of strychnin sulphate, gr. 1/30. Just before leaving the operating-table this was repeated, and an enema of two pints of normal salt solution given. At this time the pulse was 104 and fairly strong. At 3 p.m. the pulse was 128, and very weak and irregular. Transfusions were given in both breasts, one pint of saline with two ounces of whisky. Beef peptonoids and enemas were kept up, and the patient rested fairly comfortably during the night.

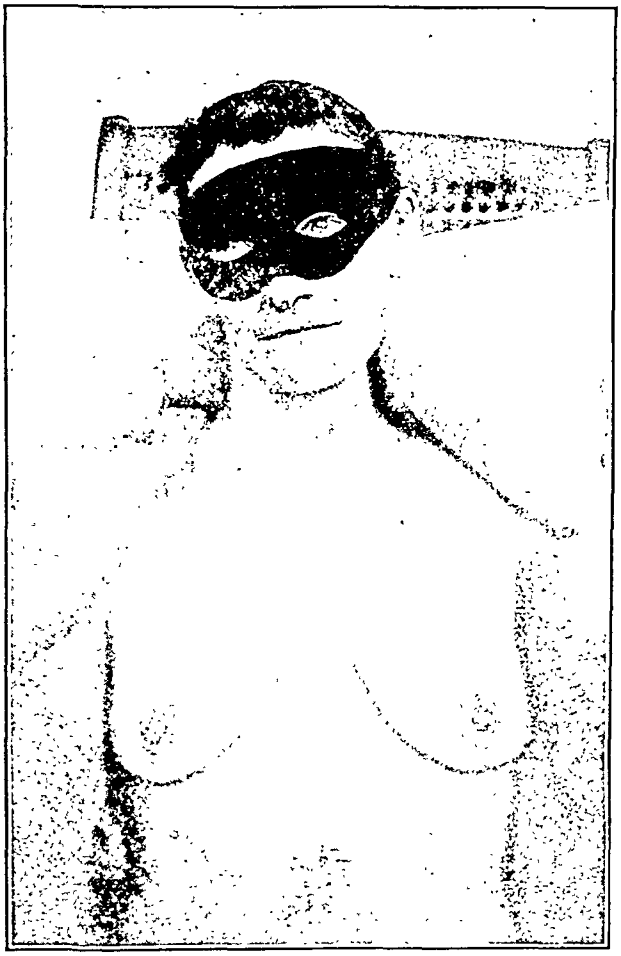


Figure 1.

December 11 the pulse was better, ranging from 110 to 126. At 8 p.m. she vomited a brown fluid of bad odor. December 12 she had a very comfortable night. The next day the abdomen was somewhat distended with gas, which was relieved by the high rectal tube. The condition was the same when she was allowed two or three teaspoonfuls of hot water at short intervals, by the mouth. On December 14 she received bovinine, gtts. x in two ounces of hot water, and on the 15th had a well-formed movement of the bowels after a high enema. During the day she had taken, by the mouth, six ounces of fluid; this was gradually increased, consisting of broth, beef peptonoids, bovinine, milk, orange juice, etc. She sat up in a chair on Jan. 21, 1899.

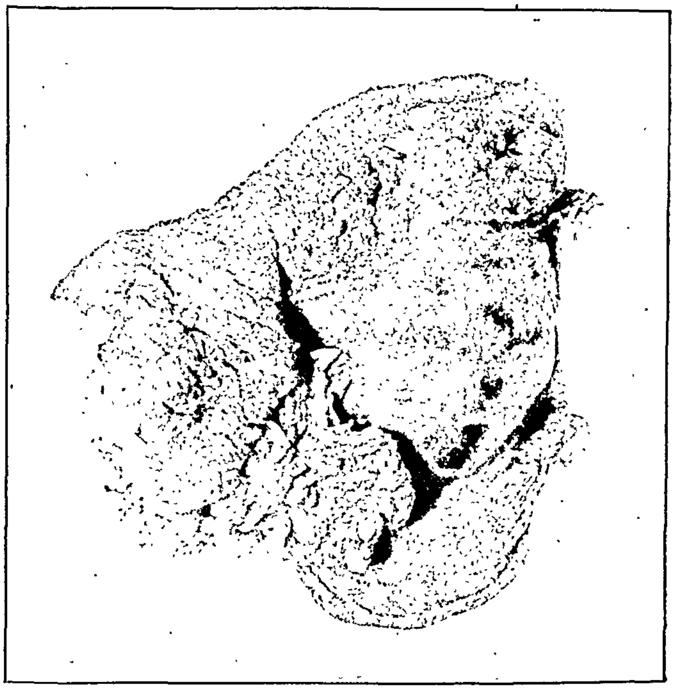


Figure 2.

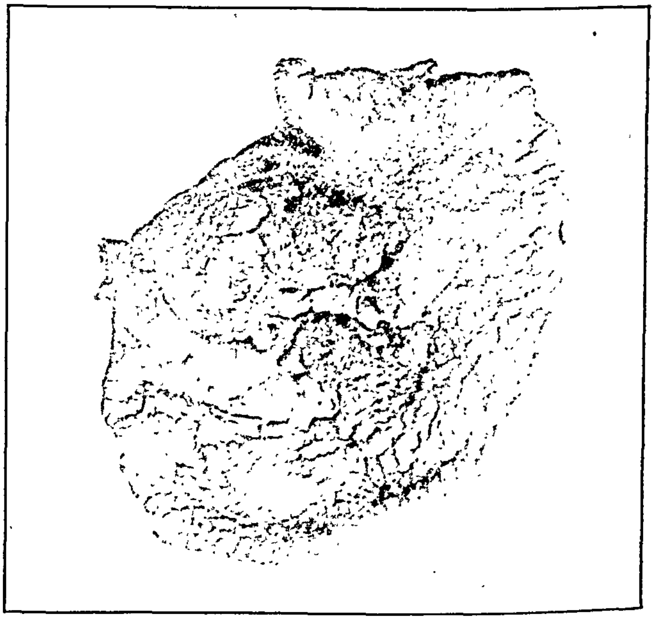


Figure 3.

An analysis of the stomach contents, made Jan. 7, 1899, revealed the absence of hydrochloric acid, sarcinæ, blood, and lactic acid; the presence of pepsinogen and rennet-zymogen. January 8 she weighed 103 pounds. January 30 she left the hospital, walking two blocks to the car. Her weight at that time was 110 pounds and in January, 1900, was 133 pounds. She does all her household duties and eats anything she desires without distress.

Remarks.—The consensus of opinion regarding the surgical treatment of cancer of the stomach, since the time that Billroth did his first operation, has been that of laudation, condemnation and criticism, according to the experience and results of the operator. The causes of death following this operation are shock, exhaustion and sepsis, largely due in the first two instances to the condition of the patient at the time of operation; in the latter to the faulty technique in most cases. The mortality record has gradually improved. Ewald, who condemned the operation, has a death record of 75 per cent., while Maydl, in a recent report of 25 cases operated on, states that 16 per cent. died from operation, 28 per cent. from recurrence and 56 per cent. are still living. Of this number, one operated on Aug. 27, 1890, still lives. This good showing is undoubtedly due to better technique, earlier recognition of the presence of cancer, judicious selection of cases, and experience.

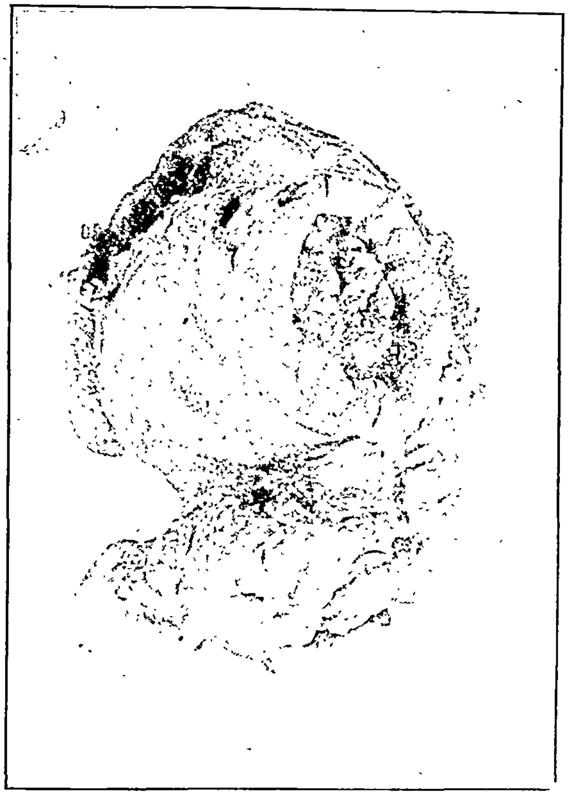


Figure 4.

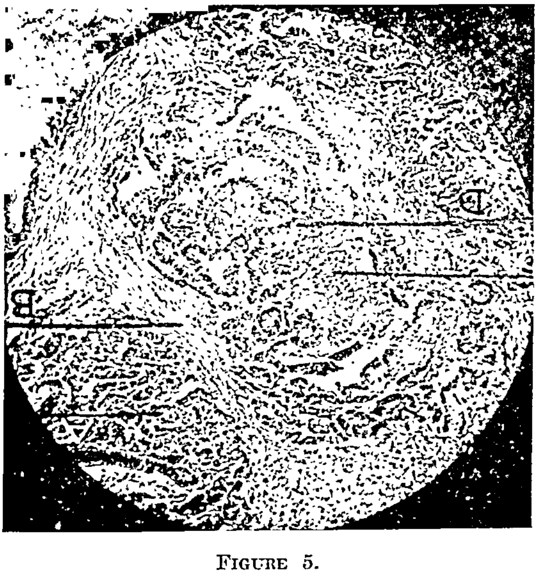


Figure 5.

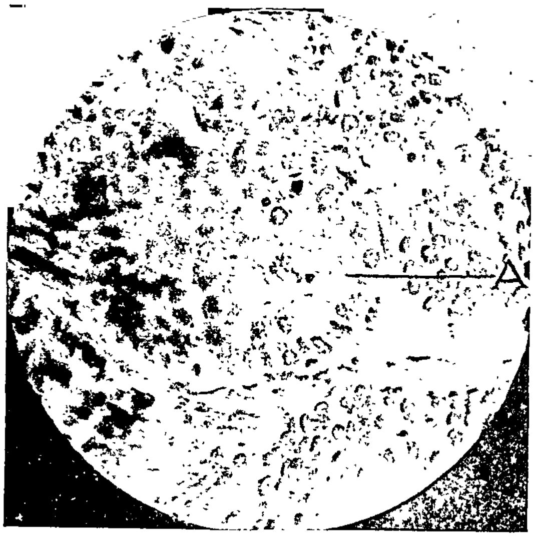


Figure 6.

To secure success in these operations proper previous purgation and washing out of the stomach is essential, rigid asepsis, thorough removal of all diseased tissues, strict regard for the control of hemorrhage, and proper approximation of cut surfaces, using care not to draw the suture too tightly. It is much better to ligate and cut than to cut and ligate as do most operators, for by this means we have a most absolute control of hemorrhage.

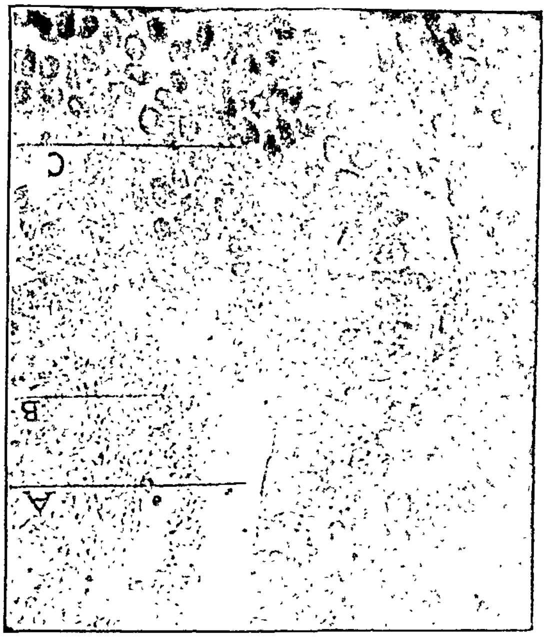


Figure 7.

Chancres of the urethra are found in the first inch and accessible to the physician's touch and eye; deeper ones are very rare, so the "supposedly" deeper ones are probably not chancres, but peri-urethral phlegmons, which do well under appropriate treatment.—*J. N. Hyde.*

URETERECTOMY.

BY J. WESLEY BOVÉE, M.D.
WASHINGTON, D. C.

Surgery of the kidney is practically of recent date, although during the sixteenth, seventeenth and eighteenth centuries the practicability of nephrectomy had been discussed and Zabbeccarius, in 1670, and Roonhuyzen, in 1672, had proved by experiments on animals that one kidney could do the work of both. It may fairly be stated that Simon's successful nephrectomy in 1869, though done in an emergency and for an indication not now recognized, marks the beginning of the surgical treatment of this very important organ.

Surgery of the ureter was the logical sequence to renal surgery. Yet, strangely enough, Gigon[1] had thirteen years previously published a case of calculous anuria, recommending and carefully describing the technique of ureterectomy—called by him "ureterotemnie," and practically followed years later by Le Dentu and Pozzi.

The interest in this subject has not lagged, and at the present time nephrectomy for injuries and diseases of the ureter is called for extremely rarely. Now, calculi are removed from the ureter by incision; injuries to it closed by suturing or drainage; strictures relieved by delicate plastic operations, curing many cases of hydronephrosis in this way; resections for complete section of it, either accidental or intentional, are easily and safely done, about twenty cases bearing evidence of this; and even its entire removal has been practiced nine times with gratifying results. It is furnishing the surgical world to-day the richest field for perfect, delicate and scientific operative work.

This paper has essentially to consider the subject of ureterectomy, an operation less than nine years old, one seldom indicated, but offering brilliant results.

By the term ureterectomy is generally understood the partial or complete removal of the ureter. It may be done primarily with nephrectomy, thus making nephrectomy and partial ureterectomy, or, if entirely removed with the kidney, nephro-ureterectomy.

Secondary ureterectomy is practiced some time after nephrectomy or nephrectomy and partial ureterectomy. The sequence of operations in the second case ever done was nephrectomy and primary partial ureterectomy, two months later secondary partial ureterectomy, and five months after that the remainder removed by a third partial ureterectomy. Partial ureterectomy is nearly always done when the kidney is removed, part of the pedicle being formed from the upper end of the stump of this duct. Total ureterectomy was first done in 1893, by Poncet. Partial ureterectomy, first performed by Tuffier[2] in 1881, has since been done ten times (see table). The writer believes many unrecorded ureterectomies have been done and the chief *raison d'etre* of this paper is to prompt the publication of reports of such as well as future ones. As this is as yet a new operation, it would seem to be of the greatest importance to record anything new or additional concerning it. It is this sense of professional duty that prompts me to mention my case, the history of which is as follows:

J. J. T., 48 years of age, was first seen with Dr. Emory Reisinger, of this city, in August, 1898. Three years previously his left kidney had been removed for a renal abscess, and at a subsequent time another operation had been done by the same surgeon for the remaining pus tracts and severe localized pain. He told me he had been an invalid constantly since before the first operation, and begged for relief. He had never been without pain, and was frequently obliged to resort to the use of morphia. I found him in a very much enfeebled condition, his pulse ranging from 110 to 130, and his temperature from 99 to 101.6 F. On the left anterior and lateral aspects of the abdomen, slightly below the level of the umbilicus, were two scars of the previous operations. One of them was so near the median line that I am inclined to think the nephrectomy had been made transperitoneally. A large hernia had occurred at this site. There were three sinus tracts in the left lumbar region, discharging a thin watery pus. In spite of his general weakness I decided an exploration to be advisable, and accordingly, on Aug. 17, 1898, after free stimulation, he was anesthetized.

With the valuable assistance of Dr. Reisinger a careful exploration was made through an extraperitoneal incision reaching from just above the level of the upper fistulous opening and in front of the left quadratus lumborum muscle to an inch inside the anterior, superior iliac spine. By careful dissection and holding probes in the fistulæ, the former location of the kidney was reached. Instead of the kidney a large amount of adipose tissue, containing many pus tracts and calculi and much cicatricial tissue was found, and a little below it the upper end of the ureter surrounded by calculi and thickened pus. The ureter was of about one inch in diameter and filled with cheesy pus and calculi. I resolved to remove the duct, and immediately extended the incision along to the inguinal canal, keeping about one inch from Poupart's ligament. With considerable difficulty, but with very slight blood loss, the ureter, in pieces, was removed to the bladder wall. The distended lumen ended abruptly about half an inch from the bladder wall, this portion being a solid cord.

The wound was closed with through-and-through silkworm gut sutures, a strip of iodoform gauze being passed to the lowest point of the pelvic wound and brought out at the lower end of the external incision, and another strip in the space formerly occupied by the kidney. The unusual atmospheric, high temperature and humidity probably assisted in producing the fatal issue seventeen hours later.

Two pieces of the ureter were sent to Dr. H. A. Kelly, who very kindly sent me the following report from his pathologist.

> The specimen consists of the ureter in two pieces, 9.5 and 6.5 cm. long and varying from .5 to 1 cm. in diameter. Its walls are from 1 to 2 mm. thick and consist of a dense fibrous coat lined with caseous material which also fills the lumen of the ureter. Histologically, the lining membrane of the ureter consists of diffused tubercular tissue chiefly composed of large epithelial cells and hyaline material, with here and there definite distinct tubercles and an occasional giant cell. This membrane merges into the caseous material which fills the lumen of the ureter and externally is limited to a zone of round-celled infiltration. The remaining portions of the wall consist of fibrous tissue and a few small muscle bundles. The fibrous tissue is poor in cells, and to a great extent has become completely hyaline.
>
> Diagnosis: Caseous tuberculosis of the ureter.

The specimen had very much shrivelled when it was sent to Dr. Kelly, having been kept for about five months in a solution of formaldehyde. At the time of its removal its lumen easily permitted the introduction of a finger. In this case the original trouble was probably renal tuberculosis, or possibly a pyonephrosis from stricture of the ureter complicated by the formation of calculi, some of which were not removed with the kidney, as they were found in that region and in the ureter at this operation. The tubercular ureteritis descended almost or quite to the bladder, although a stricture near the bladder may have been the original site of the disease. If it was a descending ureteritis, then bladder tuberculosis would probably have ensued if the patient had survived.

History.—Thus far total ureterectomy has been performed nine times, the first being done by Poncet[4], who, Oct. 18, 1893, did a secondary operation. In 1895 McCosh did a secondary total operation, and in 1895 and 1896 Kelly[2] operated twice, removing both the kidney and ureter. In the latter year McCosh[16] did the same on a man, and Gerster[5] the sixth operation, Hartmann[6] and Morris[7] two in 1897, and mine, the ninth, was in 1898. In Morris' case, part of the kidney had been previously removed by another surgeon, and Morris removed the remainder with the ureter. The first ureterectomy, however, was a partial one, done by Tuffier, in 1891, during a nephrectomy. In 1892, Reynier[8] removed the ureter in piecemeal. Kelly, in 1893, removed a kidney and ureter to the middle of the pelvic portion, and in 1894 Postnikow[9] removed the kidney and a large portion of the ureter. Since then Schiller[18] has done a primary partial, Morris one primary and one secondary, Sommers[19], Pouisson[10], Elliott[11], and Abbe[17], each one, the two latter removing the kidney at the same time. Thus, as seen from the adjoining table, the total operation has been done 9 times with 1 death, and the partial 11 times with 1 death. Four total nephro-ureterectomies have been done with no death, and partial ureterectomy with nephrectomy 8 times with 1 death.

Indications.—It is generally believed that the ureter should be removed with the kidney whenever it appears, either by inspection, exploration or palpation, to be markedly diseased. If the kidney be removed for tubercular disease, the ureter is extremely likely to be involved in the same pathologic process, to a greater or lesser extent, from above downward. In such cases at least a partial ureterectomy will be demanded. However, as it is often impossible to differentiate between healthy and tubercular ureter, at the time of operation, the whole organ should be removed, other conditions permitting. When the kidney is the primary seat of tuberculosis, and a descending tubercular ureteritis follows, the process advances most rapidly along the mucosa. This being true it is readily understood that the invasion may be far greater than can be detected with the paraphernalia at hand during a nephrectomy. The same applies to malignant disease, only, perhaps, less positively. It would seem that to remove the kidney for malignant disease, and allow an unhealthy ureter to remain, is not calculated to tranquilize the conscience of the surgeon. Yet we know the lymphatic current from the kidney is not toward the bladder, but in the opposite direction. In Abbe's case, done for sarcoma of the kidney, the specimen was examined by Dr. Prudden, who reported: "the ureter springs from the central part of the tumor and is considerably thinned and dilated." Nothing more is said of this duct, removed with sarcomatous kidney weighing four pounds, from a child weighing fifteen. Walker found that in sarcoma of the kidney in children, the ureter and bladder were involved in but three of 120 cases. In the very few patients with sarcoma of the kidney operated on, and who survived beyond three years, the ureter was not removed to any extent, which fact strengthens the improbability of such extension. When we consider that the ureter and bladder are liable to constant inundation by the products of kidney disease, such freedom from similar lesions is remarkable. Forms of severe ureteritis, other than tubercular, demand removal of this canal. If old dense strictures of cicatricial tissue are formed in the ureter, causing obstruction with consequent dilatations higher up, there can be no better treatment, if the kidney is to be sacrificed, than to remove this duct as well. There are many conditions of the organ that demand its removal. Ordinary urinary fistula in an otherwise normal ureter has no place in the list of conditions justifying nephro-ureterectomy or nephrectomy. Such conditions may be nicely relieved by simply suturing the ureter, or by drainage, or, perhaps, resection. The same plan is applicable when a number of fistulæ are present, though one can understand the number of them may be too large for the successful application of either uretero-ureteral anastomosis, transplantation into the bladder or other viscus or even to the periphery. Small ureteral fistulæ often close without surgical treatment other than good drainage. This treatment is so satisfactory that some surgeons advocate it in place of suturing the duct even when the latter is quite convenient.' Primary malignant disease of the ureter is not very common, if the literature of the subject may be allowed to guide us. Yet as ureteral surgery advances, a different aspect may be presented. It would seem the intimate relation between this duct and the peritoneum would favor early extension of cancer or other form of malignant disease of the ureter, and offer but a short space of time for the possibility of its eradication. Syphilis may play such an active rôle here as to cause incurable or impermeable strictures, and in that event ureterectomy might be indicated, though exceedingly rarely. Hydro-ureter with hydronephrosis will in some cases require entire removal of the ureter and kidney, as in Postnikow's case. Thus far the operation has been done twenty times, in fourteen of which the diagnosis was unequivocally tuberculosis. In four other cases such terms as "empyema ureter," "hydro-ureter and hydronephrosis," and "thick and hard ureter with pus," were employed in explaining the condition. In one it was removed with a sarcomatous kidney, and in another for "traumatic hemato-hydro-nephro-ureterosis." In one case (Reynier's) the condition followed typhoid fever. Excruciating pain in the region of the ureter, especially if sinuses are present, will often at least call for exploration, and, probably, ureterectomy. It is generally the result of leaving behind a diseased ureter, very common after nephrectomy for kidney tuberculosis. We must not forget, however, that considerable of the lower portion of the ureter may be dispensed with by the employment of some form of anastomosis[12], thus saving the kidney function, and even the bladder has been completely removed with success[13] for growths of various kinds as well as for tuberculosis. So ureterectomy is not called for in all serious forms of ureteral disease. Just why thirteen of the nineteen persons operated on in whom the sex is given, were females, is not easily explained.

As practically all cases done thus far were for tubercular disease, recognition of the conditions calling for the operation should not be difficult. In this disease, in every case thus far, the enlargement was marked and the duct could be easily palpated in the upper part of its course, especially during nephrectomy. In its lower part the rectum in the male and the vagina in the female offer very good facilities for its palpation. The employment of the ureteral bougie and catheter are exceedingly valuable adjuncts in exploration and diagnosis. Then the marked symptom of localized pain, often of an excruciating character, changes in the urine, particularly those of a bacteriologic character, lead to a proper conception of the condition. Often troublesome fistulæ are present, which add largely to the valuable data concerning the condition. Pregnancy seems to aggravate the symptoms. In Tuffier's case incontinence of urine had been continuous since childhood, showing some relation of that trouble with the condition of the kidney and ureter. The condition of the opposite set of organs must give the surgeon great concern in ureteral and kidney surgery. This is often quite difficult of determination. Apropos of this the following interesting case of right hydronephrosis in a girl is reported from Czerny's clinic. She had a tubercular history, but no bacilli were found, and she was kept in the hospital for a long time to ascertain the condition of the left kidney. It was obtained accidentally by Koch's tuberculin. The general reaction was not violent, but locally sensations present in the region of the right kidney were increased. In a few hours after the injection she passed perfectly clear urine, free from pus, in considerable quantity, of normal specific gravity and containing no albumin. The experiment was repeated several times with the same result. The diagnosis made was tuberculosis of the pelvis of the right kidney and part of the ureter. The explanation offered for these phenomena is that the tuberculin caused swelling and occlusion of the right ureter, thus permitting the urine from the healthy side to be passed uncontaminated. After the pain subsided and pus again appeared, tubercle bacilli were found, which was thought to be due to disintegration of tubercles. Czerny did a nephrectomy and found multiple cheesy abscesses in the kidney and a thickened ureter[20].

Prognosis.—The operation is not necessarily a dangerous one, depending largely on the general condition of the patient. The mortality rate thus far is 10 per cent., the two deaths being in very much enfeebled patients; it would probably have resulted differently in an early stage of the disease. When an operation done in practically an unknown field gives such good results, it is not over-sanguine to expect the mortality rate to markedly decrease as experiences multiply.

Methods.—For removal of the ureter, two principal methods have been employed—the transperitoneal and the extraperitoneal It would seem that the former would but rarely be indicated, especially as pus, either tubercular or otherwise, is so constant in the condition demanding the operation, the danger of infecting the peritoneum very marked and, as the ureter lies completely outside this structure, its removal by the extraperitoneal route would seem to be the proper one from an abstract surgical standpoint. In the primary operation, however, with a large kidney tumor, the transperitoneal is the most convenient. Seventeen cases have been done by the extraperitoneal route, one by combined extraperitoneal and vaginal and two by the transperitoneal. Certainly the upper part of the duct is reached with greater facility through the loin, especially in the primary operation. In women, the lower end is most easily reached through the vagina, and Kelly found a small opening into the peritoneal cavity, just above the pubes, of great assistance in one case. The whole length of the duct is much more easily treated in the male as the broad ligament and ovarian and uterine vessels furnish difficult complications. The parasacral route for reaching the lower part of the ureter has been recommended by Morris[14] and others, but is probably inferior to the combined inguinal extraperitoneal and the vaginal. Probably the best incision for total extirpation of the ureter begins about one inch below the twelfth rib, just to the outside and front of the sacrolumbar mass of muscle. Its course is then directed downward to an inch inside and above the anterior superior spine of the ilium and, paralleling Poupart's ligament one inch above it, it may be carried inward as far as necessary. Usually to its middle is sufficient, but a longer distance is easily secured. In the male this incision will give access to the whole length of the ureter, and in the female to all of it above the broad ligament.

Date.	Name.	Operation.	Indications.	Result.	Sex.	Remarks.
Feb. 22, 1891. . . .	Tuffier.	Primary.	Intermittent pyonephros and ureter, stricture.	R.	F.	Extraperitoneal; removed upper part of ureter with kidney.
1892	Reynier.	Secondary.	Descending tubercular ureter.	R.	M.	April 27, 1892, exsection kidney and part of ureter. June 6, 29 and November 18, partial exsections of ureter; extraperitoneal.
March 30, 1893. . .	Kelly.	Primary.	Tuberculosis of kidney and ureter.	R.	F.	Transperitoneal; removed all but lower half of pelvic portion of ureter; *ovarian vessels ligated in abdomen.*
Feb. 18, 1894. . . .	Postnikow.	Primary.	Hydroureter and hydronephrosis.	R.	M.	Extraperitoneal; removed 13 stones and ureter to 2 cm. from bladder.
April 4, 1894 . . .	Schiller.	Primary.	Tubercular kidney and ureter.	R.	F.	Extraperitoneal; removed ureter to edge of pelvis and kidney.
July 6, 1895	Morris.	Primary.	Tubercular ureter and kidney.	D.	F.	Extraperitoneal.
March 11, 1896. . .	Morris.	Secondary.	Tuberculous ureter.	R.	F.	Intracapsular nephrectomy, Feb. 8, 1896, then extraperitoneally, ureter to broad ligament.
April, 1896.	Elliott.	Primary.	Tuberculous ureter.	R.	F.	Extraperitoneal; ureter removed to pelvic brim, stitched 1 mm. of end of stump.
July, 1897..	Pouisson.	Secondary.	Thick and hard ureter and pus.	R.	F.	Nephrectomy 3½ mos. before; ureter removed to 3 or 4 cm. from bladder extraperitoneally.
Nov. 19, 1898. . . .	Abbe.	Primary.	Sarcoma of kidney.	R.	F.	4-lb. tumor from child 8 mos. old and weighing 15 lbs. Removed ureter to near bladder; extraperitoneal.
Dec. 21, 1898. . . .	Sommers.	Primary.	Traumatic hemato-hydro-nephro-ureterosis.	R.	F.	Distension of kidney and ureter by many quarts of dark colored watery fluid; ureter much thickened and distended.
Oct. 18, 1893	Poncet.	Secondary.	Chronic descending tubercular ureteritis.	R.	F.	Extraperitoneal; removal of tubercular kidney in March, 1891.
1895	McCosh.	Secondary.	Tubercular ureter.	R.		Nephrectomy for tubercular kidney 18 months previous.
Dec. 18, 1895. . . .	Kelly.	Primary.	Tubercular ureter.	R.	F.	Extraperitoneal; sharp oozing from external iliac vein.
1896	Kelly.	Primary.	Renal tuberculosis.	R.	F.	Combined extraperitoneal and vaginal with short abdominal incision.
1895 or 1896	McCosh.	Primary.	Tubercular kidney and large perinephrotic abscess.	R.	M.	Ureter the size of small intestine, obstructed ½ inch from bladder.
Nov. 13, 1896 . . .	Gerster.	Secondary.	Empyema ureter.	R.	M.	Extraperitoneal; nephrotomy and nephrectomy in 1893.
Jan. 14, 1897. . . .	Hartmann.	Secondary.	Tuberculosis.	R.	F.	Extraperitoneal; nephrectomy and fixation of ureter in bottom of wound one month before.
Sept. 21, 1897 . . .	Morris.	Primary.	Tubercular kidney and ureter.	R.	M.	Extraperitoneal; part of kidney removed in Jan., 1897.
Aug. 18, 1898. . . .	Bovée.	Secondary.	Tubercular ureter.	D.	M.	Extraperitoneal; (see case history).

The first eleven cases are a table of incomplete ureterectomies. The last nine cases constitute another table of complete ureterectomies, as will be readily seen by referring to my paper.

Technique.—After making the incision mentioned, through the fascia, muscle, etc., care is necessary not to penetrate the peritoneum. By careful, dull dissection it will be recognized, and the ureter, if large, will be quite easily noticed. If smaller, it can still be detected attached to the separated peritoneum. When the kidney has been removed some time, the search for the upper end of the duct is very often perplexing. Concerning his case Gerster says: "The most difficult portion of the task was to find the renal end, which was searched for in a large cicatricial mass closely connected with the peritoneum," and Abbe found the same difficulty. This may be avoided if in nephrectomy the practice of fastening the end of the ureter in the lower end of the incision is followed. This procedure furnishes a definite location for it, a secondary ureterectomy being much more easily accomplished. When the peritoneum has been raised from the rest of the abdominal wall all along the duct, care being necessary to avoid injury to the round ligament and arteries about the inguinal canal as well as the spermatic cord in prolonged incisions, the ureter may be completely separated, though much danger of opening the peritoneum exists. In the female, if complete exsection seems necessary, the vaginal roof is incised along the course of the ureter. The ureter is to be ligated before being severed, and as further precautions cauterization of the stump and suturing of the mucosa of it have both been recommended. In my case these were unnecessary, as the intravesical portion was solid. The uterine artery is in a dangerous location and may require ligation. Great care is necessary to avoid injuring the sigmoid flexure or the cecum, under which the ureters pass, the ovarian vessels which cross and recross them and the uterine arteries which also cross them. Kelly found it necessary to split up the bottom of the broad ligament in order to remove the portion of the ureter passing through it. As in many of these cases considerable pus is present and a large cavity left, owing to separation of the peritoneum, which permits oozing to occur and fluids to accumulate in the pelvis, it is best to carry a strip of gauze down to the lower end of the wound. Another may be needed in the upper end. The wound, except drainage spaces, may be closed by buried or through-and-through suture.

Note.—Since the above paper was written I have found four additional cases of complete ureterectomy:

Garceau, E.: Secondary operation on a woman for tubercular ureter, combined loin, experitoneal and vaginal, Nov. 24, 1897; recovery. Boston Med. and Surg. Journal, 1899.

Le Dentu: Primary operation on a man for papillomatous tumor at vesical orifice of ureter; recovery. Semaine Méd., 1899.

Noble, G. H.: Primary operation for tubercular kidney and ureter; recovery, December, 1899.

Montgomery, E. E.: Primary operation on a woman, January, 1900, for tubercular kidney and ureter; recovery.

The last two cases are unpublished.

BIBLIOGRAPHY.

1. Gigon: L'Union Medicale, Feb. 14, 16, and 21, 1856.
2. Kelly, H. A.: Johns Hopkins Hosp. Bull., 1896-7, pp. 31-37.
3. Tuffier, Glantenay: Chirurgie de L'Uretere, These, Paris, 1895, p. 284.
4. Poncet, Liaudet: Total et partial Ureterectomie dans lecons des ureteres avec ou sansalterations renales, 4, Lyon, 1894.
5. Gerster, A. G.: Am. Jour. Med. Sci., 1897, cxiii, 677-700.
6. Hartmann: Rev. de Chir., Paris, 1897, xvii, 1046.
7. Morris, H.: The Lancet, London, 1898, i, 17.
8. Reynier: Bull. et Mem. Soc. de Chir., de Paris, 1893, n. s. xix, 102-112.
9. Postnikow: Arch. f. klin. Chir., Berl., 1894-5, xlix, 675-687.
10. Pouisson: Assoc. franc. de Chir., Proc.-verb., etc., Paris, 1897, xi, 385.
11. Elliot: Boston Med. and Surg. Jour., 1897, cxxxvi, 173.
12. Bovée: Uretero-ureteral Anastomosis, Annals of Surg., Jan., 1897 and a Contribution to Experimental Surg. of the Ureter, Ibid., 1897, xxvi, 314.
13. Tuffier et Dujarier: Rev. de Chir., April 10, 1898.
14. Morris, H.: British Med. Jour., 1898, i, 876.
15. Walker, George: Annals of Surg., 1897, xxvi, 555.
16. McCosh, A. J.: Annals of Surg., 1897, xxvi, 364.
17. Abbe, R.: Annals of Surg., 1889, xxx, 317-320.
18. Schiller, Karl.: Göteborg's Lakares Forhandlinger, 1893-1895, pp. 110-112.
19. Sommers, Jno. H., Jr.: N. Y. Med. Record, 1899, lvi, 166-7.
20. Fenger and Stanton: Diseases of the Ureter in Am. Textbook of Genito-urin. Diseases, Syphilis, and Diseases of the Skin, 1898, p. 520.

1404 H Street.

SUGGESTIONS ON RIGHTS AND LIABILITIES OF SURGEONS.*

BY T. J. MAHONEY.
ATTORNEY AND COUNSELER AT LAW,
OMAHA, NEB.

The lawyer is nothing if he is not generous. He is willing to help you out of your difficulties—for a retainer. If, so be it, he can not get a retainer, he will tell you how to keep out of difficulties, for glory; and if there is neither retainer nor glory in sight, he will do it out of pure force of habit.

It is doubtless true that the surgeon is more often compelled to face a situation in which he must consider his own rights and liabilities than is the general medical practitioner. He is often called on to make an election between taking desperate chances and doing nothing. He is called to treat a man who has met with a serious accident. The patient is unconscious. An operation of an important and serious character, involving elements of danger, seems to be necessary. The man is in a critical condition, and if the operation is to be performed at all, it must be without loss of time. The patient is not in a condition to give his consent to the operation. What shall the surgeon do in such a case? What are his rights, and what are his liabilities? Will he be charged with neglect if he refuses to act, or will he be held liable for malpractice if he takes off a limb or opens the abdomen without the patient's consent?

Surrounding circumstances will often assist in resolving these doubts. If the injured man is at his home or surrounded by members of his family, the law will constitute his family his agents to consent for him, that the operation may proceed, and such consent will protect the surgeon to the same extent as if it were given by the patient himself, in the full possession of his mental faculties. But the injured man may be a guest at a hotel or a passenger on a railroad train. He is not in a condition to speak for himself, and there is no one present with either express or implied authority to represent him. Neither is it practicable to communicate with his relatives with any hope of receiving a response in time to be available. In such a case the difficulties of the situation are quite serious. If an important operation is attempted and it should turn out badly; if a limb is removed and the patient, on recovering, can make it appear that the surgeon's judgment was erroneous, even though honestly exercised and with average skill and care, the surgeon is liable and may be compelled to respond in damages, as for malpractice.

The rule as to consent may be briefly stated thus: Where the operation is consented to either by the patient or by those authorized to speak for him, the surgeon is not bound to an unerring judgment; he is protected, if, in his diagnosis, in obtaining consent, and in the operation itself, he exercises average professional knowledge, skill and care. But where he has no consent to operate, he will be bound to the exercise of an absolutely correct and unerring judgment, and he takes on himself the risk that it may afterward be established, even by the aid of facts not known to or discoverable by the surgeon at the time, that the patient would have been better off had the operation been omitted, and that damages may be recovered where no want of skill or care is shown. Cases may no doubt arise in which the desire to save human life—an impulse of humanity—coupled with such certainty that the operation is necessary, will justify proceeding without the patient's consent. But in every such case, the surgeon, by proceeding without consent, takes the risk of any evidence that may be afterward discovered tending to show that the patient was, in fact, damaged by the operation.

---

*Read before the American Academy of Railway Surgeons, Omaha, Neb., Oct. 12-13, 1899.

On the other hand, where the consent is obtainable, either from the patient himself, or from those who have a right to speak for him, a surgeon would be liable for malpractice for failing to operate where the exercise of average professional knowledge and skill would disclose the necessity for an operation; but where consent is not obtainable—where all the risks of an operation are thrown on the surgeon—he will never be held guilty of malpractice for failing to operate.

Consent may be implied as well as expressed. If a conscious patient puts himself in the charge of a surgeon, and afterward becomes unconscious, he has by that act given implied consent that the surgeon shall take such course as his best judgment suggests, and he has, in like manner, imposed on the surgeon the obligation of operating if average professional knowledge and skill would indicate that an operation ought to be performed; or if a person, conscious of having received an injury, sends for a surgeon and becomes unconscious before the surgeon arrives, he has thereby given his consent to whatever course of treatment may be reasonably necessary or proper, and has imposed on the surgeon the obligation of so proceeding.

In considering rights and liabilities of surgeons, we are now dealing with legal and not ethical questions. I have no doubt that the surgeon's own code of ethics is sufficient guide in determining the propriety, from a professional standpoint, of making any disclosure respecting information intrusted to him by his patient. But because of the necessary uncertainty of all ethical codes, they are not safe standards in determining legal responsibilities. The law deals with two classes of disclosures; those given on the witness-stand, and those given out of court. As to the former, the surgeon will not experience much difficulty, because the court will in each instance determine whether the information should be disclosed or not. Still, the rules applied by the courts in deciding what matters the surgeon may disclose on the witness-stand afford the only safe way in which to determine what disclosures may be made out of court. These rules may be thus briefly summarized:

1. The relation of physician and patient must be established or there is no restriction in the making of disclosures.
2. The information must come to the physician or surgeon in his professional capacity.
3. The information, to be privileged, must be such as is imparted to enable the physician or surgeon to perform his duties in the usual course of practice.
4. It will include all information imparted, whether orally by the patient, the statements of nurses and attendants, and the facts learned by a physical diagnosis.
5. Even facts not bearing on the ailment for which the treatment is given, but learned incidentally in the course of treatment or diagnosis, are privileged, and may not be disclosed.

It is impossible to fully elaborate or illustrate these rules here, but a few explanations may be given. The payment, or even promise, of compensation is not necessary to establish the confidential relation. A charity patient is entitled to the same protection as the best paying one. Neither does it matter whether the employment is by the patient or by some stranger, as by a carrier of passengers, as in case of wrecks and other accidents, or by the public, as in the case of paupers. In all such cases, whether the physician or surgeon assumes to treat the patient, or to examine him with a view to deciding whether he shall be treated at all, the relation is established and the obligation of secrecy is imposed. It is not every communication that is privileged. A patient may voluntarily make many disclosures, to his physician, that have no relation to the professional duties of the latter. He may talk about his family or business affairs; but communications of this character are not imparted to the surgeon in his professional capacity and are therefore not privileged. Neither is it true that every communication imparted for the purpose of obtaining treatment is privileged. It must be such as is imparted to enable the surgeon to perform his duties in the usual course of practice. The usual course of practice does not include conspiracies to defraud. Thus, one man may subject himself to treatment for the honest purpose of remedy, and the information imparted by him will be privileged, while another man may inform his physician that he has a certain ailment for which he desires such treatment as will mask the ailment and thereby enable him to perpetuate a fraud on a life insurance company. Such a communication is not privileged, because it is not made for treatment in the usual course of practice.

There is some conflict as to whether confidential communications include anything more than the mere statements of the patient, but the greater weight of authority, as well as the better reasoning, is in harmony with the rule just stated. A more serious difficulty arises in regard to facts incidentally learned. A very strong case in point is that of a woman who brought suit on account of an injury claimed to have caused an umbilical hernia. The defendant sought to prove, by a physician who had attended the patient in childbirth, previous to the accident, that at that time he observed the hernia and it could not, therefore, have been caused by the accident; but the court held that even though the physician had not treated the woman for the hernia, and learned of its existence only incidentally, still it was information which came to him in his professional capacity, and in enabling him to perform his duty in the usual course of practice, and he was therefore not permitted to disclose it.

These suggestions on confidential communications should be qualified by the remark that the privilege did not exist at common law, that where it does now exist it is by virtue of statute, and as statutes as well as their interpretations differ in different jurisdictions, the rules here given can not be regarded as of universal application. They do, however, fairly present the law as most generally enforced in this country. It may be added, also, that no matter how good the motive of the physician or surgeon may be in disclosing confidential communications of his patient, the motive will not protect him. This was well illustrated in the comparatively recent case of a London physician, who, desiring to prevent his wife and daughter associating with a certain woman, disclosed to his wife confidential communications received from his patient. As disclosing the secret to his wife was equivalent to disclosing it to her friends, the physician afterward had the satisfaction of paying a judgment of £12,000, and the costs of the suit.

An enterprising Omaha newspaper recently published a symposium of letters from a number of physicians in answer to the inquiry "whether the doctor is ever justified in refusing to prolong the life of a patient mortally ill." Most of the physicians took the postition that in no case should the physician permit the patient to die while it is possible to prolong life. But a few did not fully agree with that doctrine, and one, who discreetly concealed his name, said that in cases of mortal illness, the means of committing suicide might be placed in the patient's reach, and if he is intelligent he will use them promptly. I shall not discuss this subject from a scientific, ethical, or theological standpoint. The rule of law is very simple, and in exact harmony with the commandment: "Thou shall not kill." The statutes defining murder and manslaughter make no distinction between killing a sick man and a well man. Neither do they recognize as legal, in this country, a practice said to prevail among certain tribes of Patagonians who have not sufficient intelligence to stand on the shady side of a tree, by virtue of which those who have grown so old as to be unable to help themselves or others, and who are certain to die soon in any event, are boiled into soup for the nourishment of the rising generation. Permit me to say, in closing, that I am not an advocate of "Jacks of all trades," and that when the surgeon is really in need of a legal opinion, the best advice I can give him is to hire a lawyer.

THYROID EXTRACT IN JUVENILE OBESITY: A CLINICAL NOTE.*

BY I. N. LOVE, M.D.

ST. LOUIS, MO.

Animal therapy is at this time an alluring subject, being unquestionably all in all the most revolutionary made in years toward the physiologic cure of disease. The medical profession should, figuratively speaking, bow its head in humble apology to the great physiologist and psychologist, Brown-Séquard, for when he contributed to his guild views which were the product of long years of delving and study, they were temporarily received with enthusiasm, but after only superficial consideration were laughed at as the product of a brain suffering from senile decay. We are now beginning to realize, as he did, that in the ductless glands lies the entire scheme of tissue building, repair, life. In this department of work the already established value of the thyroid gland in myxedema, obesity, idiocy, some forms of insanity and other conditions due to interrupted or misdirected metabolism is familiar to all, and favorable clinical evidence is accumulating constantly. More recently the reports on the use of the suprarenal glandular extract in Addison's disease opened up additional lines of experimentation. I should enjoy discussing the entire broad field of glandular therapeutics, but it is my purpose only to present brief clinical experience in the use of thyroid extract in the treatment of juvenile obesity.

At the Louisville meeting of the Mississsippi Valley Medical Association, in October, 1897, I reported, favorably, the treatment of four cases of this kind, children ranging from 6 to 10 years of age, weighing from 106 to 170 pounds. Since that time three more cases have come under my care, and have been under treatment for from twelve to sixteen months.

The most characteristic one of these, B. W., a boy aged 8 years, weighed on first presentation to me 131 pounds, was quite tall for his age, but excess of fat was the chief cause of extra weight. He was fairly bright, intelligent and cheerful, but becoming quite sensitive from being called "fatty" by his playmates. I found that his weight had made him quite "luggy," so to speak, and he had gradually become more and more disinclined toward physical exertion. He was quite constipated, not a "hearty" eater, and not specially inclined toward sweets.

I prescribed proper purgation and a course of medication and diet which would antagonize the constipation and favor a general activity of the secretions, regulating the diet by proscribing fats and sweets, and instructing him to eat freely of fruits and vegetables, such as tomatoes, cabbage, spinach, sauerkraut, etc. I also ordered him to pay especial attention to all hygienic rules, such as bathing and massage, and in particular to take plenty of exercise, walking, running, jumping, horseback riding, croquet, and all out-door athletic games.

I then ordered one-half of a 5-grain tablet of thyroid extract to be taken three times a day, and gradually increased the quantity until one tablet was taken four times a day. I observed that with the general increase of the thyroid a general improvement occurred. Within three months he had lost ten pounds in weight, and now, after about fourteen months of treatment, he weighs 106 pounds. The chief feature of his case, however, is that he has developed, very definitely and distinctly, muscle to a considerable degree. He is more active and alert in appearance, both physically and mentally. He lives in an adjoining state, and I see him once every month or two.

This case and the others similarly treated will necessarily be under observation for several years, possibly until complete maturity has been attained, or at least until they have "out-grown" the disposition toward obesity. General attention to exercise and hygiene on the part of the patient has been a factor in the management of the case, but there is no question in my mind that the thyroid has been of great service.

I found, commencing about three years ago, that a most excellent drug to be taken in connection with the thyroid, with a view to prevent depression and unpleasant effects, was strychnia, in doses ranging from 1/150 gr. to 1/50 gr. Not only is strychnia one of our best tonics, but it is almost specific in its helpful effects on the nervous system and on all processes of nutrition. During the past year, for convenience, I have had tablets of thyroid made in two sizes, 2½ and 5 grains respectively. I have combined the strychnia with the tablets, the 2½-grain tablet carrying 1/150 gr. of strychnia, and the 5-grain tablet 1/50 gr. By using either the one or the other of these tablets, in division or without breaking, the thyroid and strychnia have been regulated easily.

We can not too thoroughly appreciate the fact that the best results can be gotten in all of these errors of growth and development in children by commencing the treatment early. The profession and the public should be generally informed that there is a good chance of greatly improving these unfortunates. The results achieved in the treatment of the victims of cretinism and idiocy have been almost brilliant. The results which I have accomplished in my own cases have encouraged me in the hope that, as time passes, we may be able to cure the victims of juvenile obesity, and thus save them for valuable positions in life, rather than their being burdens to themselves and having open to them little in the way of a livelihood save service in the side-shows of circuses or dime museums, with the other freaks [illegible] ished victims of Nature's apparent blunders.

---

*Presented to the Section on Diseases of Children, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

DISCUSSION.

Dr. A. C. Cotton, Chicago—I have listened to this paper with considerable interest, for I have had a limited experience with the thyroid extract, outside of the treatment of cretinism. I have had three adult cases on thyroids for the reduction of obesity. A more or less marked reduction of the obesity has been effected, but in two of them there has been an unpleasant symptom, i. e., headache. One patient could take 5 gr. of the thyroid extract three times a day, but when this dose was increased to 10 gr. three times a day she complained of headache, and I found no way of correcting that. I would like to ask Dr. Love whether he has observed headache following the administration of thyroid extract.

Dr. I. N. Love, St. Louis, Mo.—I have had to regulate the dosage with both children and adults according to the effect, one of the disagreeable ones being, at first, headache. I have always observed some depression of the heart. This was why I was led to combine strychnin with the thyroid extract. I consider obesity in itself, in the adult, a misdirection, as it were, of metabolism. The nutritive processes are interrupted, and on general principles we should encourage elimination, activity of the circulation and all that will favor the establishment of the proper equilibrium of tissue building. In the ductless glands—of which the thyroid is one—we have important remedial agents. My experience also leads me to believe that the combination of strychnin with thyroid makes the treatment more favorable.

Dr. G. M. Blech, Chicago—Have you ever examined the thyroid gland in your patient before prescribing the thyroid extract?

Dr. I. N. Love—I have not been able to observe very much apparent change in the thyroid gland. I do not believe the interruption of metabolism is always dependent on this gland. I feel like emphasizing the point made by one of our pelvic surgeons in America, in a paper read before the Mississippi Valley Medical Association—Dr. Sherwood-Dunn. He spoke of "The Conservation of the Ovary," and drew attention to the fact that it was related to the gland which had to do with tissue building. He argued that the ovary should be conserved to the fullest. I think our surgical friends—more particularly the younger men—should be warned against the needless emasculation of women. This point should be borne in mind in this connection.

SEPTIC CONDITIONS IN SOME OF THE ACUTE INFECTIOUS DISORDERS IN CHILDREN.*

BY A. C. COTTON, A.M., M.D.

CHICAGO.

It has been the custom of lecturers and writers to discuss disease by types, the nomenclature depending on certain groupings of symptoms and signs as indicating a particular disordered condition known as a disease. Within certain limits, variation in character, cause, duration, or sequence of symptoms was allowed without a change in name other than saying atypical. So also many well-known, and some rare, manifestations were observed and acknowledged under the terms, "complication," "sequelæ," etc., without, however, requiring a change in the established generic name of the disease. In the description of certain pathologic conditions the modifying terms, such as "acute," "subacute," "chronic," "retarded," "latent," etc., were employed to express at least the stage of the morbid process, though some of the conditions there described were so dissimilar that no relationship was discoverable save that of the name. In the acute infectious disorders, so loath have we been to surrender our nomenclature that great inconvenience and much confusion has obtained in clinical observation and discussions, the atypical prevailing much more frequently than the type, and the varying complications presenting much graver conditions than the presumed original disease.

As a poor hypothesis is better than none, it is probable that our present nomenclature has served a useful end for the accumulation and classification of clinical data. As to persistency of type, probably no class of disorders presents so uniform grouping of symptoms as the exanthemata, yet the possible variety of complication and sequelæ renders the prognosis as uncertain as when dealing with some new and unknown disorder.

Thus far we have been obliged to accept such vague expressions as "climatologic influences," "epidemic characteristics," "individual idiosyncrasy," etc., in explanation of the widely differing results in these presumably familiar, acute infectious disorders. With the advent of bacteriology new light has dawned on infection, and etiology has become the guest of the home. That the advancement of bacteriology toward the claims of an exact science will soon compel sweeping revision, if not a complete overthrow, of our nomenclature, few will deny. Since clinical diphtheria is no longer a recognized entity, and Klebs-Loeffler diphtheria—pure and simple—a *rara avis*, the question may well be raised, why not discard a name which no longer carries any pathologic or etiologic significance? Since influenza without the bacilli of Pfeiffer is like the play of Hamlet without the melancholy Dane, why offend our sense with the persistent abuse of the term? For many years that revered term "pneumonia" has required so much propping up with adjectives that the careless tripper may bring down the entire pulmonary pathology about his ears. As went the ancient "dropsy," "jaundice," "biliousness," and "neuralgia," so must we bid adieu to the terms "influenza," "diphtheria," "pneumonia," and "rheumatism," or, if we retain these names at all, they must be so loaded with modification as to serve only as entertainment to the laity. The query, "what's in a name?" may well apply to our present classification when we consider our newer methods of clinical study, with their inexorable conclusions.

The effort to isolate the etiologic factor in morbid processes impels one to follow the chief mischief-maker, and whether we find him most active at start or finish, we keep him in view, regardless of the old clinical boundaries between inception, development, convalescence, recrudescence, complication or sequel. By persistence in ethical methods of study, we are at last beginning to recognize our real enemy among the factors of uncontrollable morbid processes. An antitoxin has been found that will do all that is claimed for it, viz., minimize the intoxication from pure Klebs-Loeffler bacilli, but that it will cure diphtheria as clinically recognized can not be maintained in the face of the still high rate of mortality. The apparent fact that clinical diphtheria was Klebs-Loeffler diphtheria and something else, had led to the most searching scrutiny as to what the something else was, and I believe no one will deny that the complicative factor which renders the intoxication uncontrollable is often due to the presence of the streptococcus. Whether we ascribe to this microbe additional toxic virulence of its own, or accept the hypothesis of symbiosis, the fact remains that in the graver forms of mischief he is present, and that intractable cases very rarely develop in his absence. So too in pneumonia, in pertussis, in measles, and above all in scarlatina and influenza, the intractable cases are rarely distinguished by the absence of the streptococcus. So evident has this become that the term "streptococcus" has frequently served in clinical description.

---

*Presented to the Section on Diseases of Children, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

In this connection hasty revision of my case records for the past year inclines me quite strongly to the older theory of the "unity" of poisons in the etiology of acute infectious disorders. During the past season clinical influenza was quite prevalent in our city, and as seen by me, shows, among the severe cases, over 85 per cent. otitis media with streptococcic infection. Pneumonia of this variety of infection has been unusually prevalent among children, with over 75 per cent. of middle-ear infection. Pure Klebs-Loeffler diphtheria has been rarely seen, and was of a mild type. Scarlet fever, with membranous angina, with pneumonia, diphtheria, and with otitis media, has occurred in several cases, varying greatly in the intensity of the different complications, but showing uniformity in the presence of the streptococcus. An unusually large percentage of the relatively rare scarlatinal arthritis has appeared. And in violation of the general rule, Klebs-Loeffler diphtheria has, in a number of instances, accompanied the scarlatina from the onset, while the streptococcus has appeared sooner or later in nearly all. Pertussis and measles have shown unusual tendency to grave and persistent pulmonary complication, and the general tendency to extensive adenitis with an unusual number of suppurations marked by tardy recovery has been the rule.

It is to secure an expression from my associates in this Section, believing there is profit in comparison, that I present these few not well-classified observations, and I would like to ask the question: "Is this a streptococcus year?"

Treatment.—Since it appears, from the deductions of numerous competent observers, that it is the mixed infections that are the most intractable and fatal, whether by symbiotic action intensifying the toxicity of their products, or by the induction of fatal anemia by the prolonged demand for the antitoxin substance from the overworked blood-regenerating organs, it stands to reason and is apparently borne out in practice that three distinct lines of therapy must be followed in every infectious disease: 1. Prophylactic, as against the additional development of any other septic organism: All points of entrance, especially catarrhally-affected mucous areas, which under these conditions furnish rich culture-media for pathogenic micro-organisms innocuous under ordinary conditions must be carefully guarded by frequent application of local antiseptics. 2. Specific antitoxin treatment should be thoroughly employed, even when the presence of the specific toxin-producing microbe is not demonstrable, especially in infections that are favorable to others through some law of affinity not well known, and particularly during known prevalence of other infectious diseases, as in epidemics. 3. The application of the best-known principles of hygiene, with all the medical and dietary agents that go to promote healthful metabolism and powerfully reinforce the antitoxin-producing processes of the body, the great *vis medicatrix naturæ.*

677 Jackson Boulevard.

DISCUSSION.

Dr. C. G. Slagle, Minneapolis, Minn.—All radical reforms, so far as I know, have met with more or less opposition, and in many instances, even with ridicule. This was the case even with the great discovery of Jenner. He was caricatured and denounced as a visionary, and some of the medical journals of the day even printed cartoons showing horns growing out of the heads of children, the supposed results of Jenner's ideas and practice. Professor Cotton is among the pioneers in a new field, which we older men appreciate. Bacteriology is opening up a new field which will materially aid us in that very intricate subject of diagnosis. In the end there is bound to be a revolution in medicine, but if you push it, as Professor Rotch has endeavored to do; if you attempt to thrust these new ideas upon us all at once, the effort may result in failure, or at least it will retard progress. When I received Professor Rotch's book I was intending to lecture the next day on struma. I could not even find the word "struma" nor "scrofula" in the index, the appendix, in a foot-note or in a marginal reference. I did not find the word "dysentery." I looked further and did not find "croup," nor the word "colic." The familiar one, "diathesis," was not in the book. I addressed the author on this subject, and he replied very courteously that in dropping these old and unscientific terms he was only following out the suggestions of the American Pediatric Society. I remonstrated with him, and said that I did not believe that even such a master as he was could, by any one dash of his brush, obliterate all those old landmarks which had become as familiar as household words, not only with the laity but with physicians. You can not take any of the older books on medicine, and not find the words "scrofula," "struma," "dysentery," "diathesis," etc. It is all right enough to admit that these words are unscientific, and we must prepare for a revolution in medicine in the direction suggested in the paper of Dr. Cotton, but it will come better and faster if we do not push it too much. In medicine, as in literature, custom to some extent becomes law. These old medical terms must go in time; they are obsolescent now, and in due time will be obsolete. The paper is tremendously suggestive, and will bear discussion for a long time. The cause of the complication, otitis media, is something which we have just discussed. Streptococcus infection is quite prevalent now; it was probably so before, but was not recognized.

Dr. G. M. Blech, Chicago.—There are few papers left for this session, and I think, therefore, it would be well for Professor Cotton to favor us with his clinical notes, not to substantiate his claims, but as a matter of record. Concerning the difficulty of changing terms, as suggested by our friend, Dr. Slagle, this is an age of progress, and when we come to consider that certain terms have lost their value or meaning etymologically, they must go. There is no such thing as "scrofula"—there never was—and the only reason we used the term was because we did not know its pathology. We now know nothing but tuberculosis of the glands—"scrofulosis." The demonstration of the tubercle bacillus in the glands, or in the structures attacked is the plain justification of the omission of the word "scrofula." This term meant nothing; it gave only a very vague idea of a disease which was in reality nothing but tuberculosis. The same argument applies to the other terms referred to. They must all go since pathology has given us a definite idea of their nature.

Dr. N. P. Barnes, Washington, D. C.—With all due respect to the statements of my friend, Dr. Blech, I have under my charge a large number of children in an out-door clinic, and I see many cases that may be tubercular, syphilitic, or rheumatic. These diseases seem to cross somewhere, or are so intimately associated that we can not say positively: "This is a case of tuberculosis." I do not like the word "scrofula," but there are conditions for which we can not substitute the term "tubercular lymphangitis."

Dr. Edwin Rosenthal, Philadelphia.—The last speaker is right. Not every case of lymphatic enlargement is tubercular, nor can we say that each case must have a certain name to indicate a disease. As to the late books, Holt gives "lymphatism" as the name of a disease and this can exist in those entirely free from such specific causes. I have met several cases of lymphatic disease that I am certain—and as certain as the bacteriologist is, who pronounces a cause—were neither syphilitic, scrofulous, strumous, nor tubercular, but simply depended on some condition as yet unknown. It is well to drop terms that give erroneous impressions, but we should do so at a slower pace, and when we do, we should have correct names to give.

I remember cases sent to the Municipal Hospital—the contagious disease hospital of Philadelphia—suffering from "glandular fever" (?). This was neither scarlet fever, nor diphtheria, nor tubercle, nor syphilis, and still it was tho[illegible] best to send them to this hospital. The [illegible] pl[illegible] another glandular disease that is not tu[illegible] go on multiplying, *in answer to Dr. B*[illegible] know: when the term "scrofula" was u[illegible] sumption was the danger; its origin might have been syphilis or tubercle; the result was always the same and, hence this old name, which now appears useless, had its value in its time.

Dr. G. M. Blech.—Not every adenitis is tubercular any more than every vaginal discharge is gonorrheal in character. These things have been settled more than one year ago. The fact that certain glands are diseased does not prove that they are tuberculous. There are other forms of adenitis. I referred to that condition formerly commonly spoken of as "scrofulosis," and I assert that it is nothing more than tuberculosis. The use of these vague terms enables us to avoid making a correct diagnosis. By microscopic examination we are able to make a correct one of tuberculosis or syphilis, and then we can determine the particular form of adenitis with which we are dealing.

Dr. N. P. Barnes.—We see hundreds of children with swollen glands about the neck. We can not at all times open these and examine them microscopically, nor are we justified in the measure when, under syrup of iodid of iron, these glands assume their normal dimensions.

Dr. G. M. Blech.—How long have you watched these cases?

Dr. Barnes.—Some of them for 4½ years and I have never noted any cough or pulmonary symptoms during this time, that would be indicative of incipient phthisis.

Dr. Blech.—In all of these tubercular forms of adenitis there is usually an infiltration of the apices of the lungs, and by physical examination of the apices of the lungs, evidences of pulmonary consolidation can be discovered. A little of the gland can be withdrawn with a hypodermic needle, and the presence of the bacilli of tuberculosis demonstrated by microscopic examination.

Dr. A. C. Cotton.—I confess that my sympathies run in the line of the views presented by Dr. Slagle. I make confession to what I consider an error on my part in teaching, i. e., using the old and indefinite terms because they are so convenient. I now believe that I have done my pupils injustice in this respect. The use of indefinite language leads to errors in thinking, and this will eventually crop out in the treatment of our patients. No matter how handy it may be to talk about diathesis and things of that kind, it is not right. I agree with Dr. Slagle that too sudden and sweeping changes are not advisable. We must remember, when we write and speak as teachers or as compilers of statistics or data, or when we make deductions for the whole medical profession, that we must not go over the heads of the mass of the profession. We must go slowly, yet we should always urge ourselves to the point of definiteness and accuracy, keeping as close to the etiology as possible.

Now, how many of you have struggled with a case of so-called diphtheria with a mixed infection and have finally had to surrender to the unknown, although you have worked faithfully, and have learned, perhaps a year later, that some one else has been called in because he cured some patient with diphtheria in the same block, at the time you lost yours. How heart-breaking that is. There is something more than pecuniary reward in the practice of medicine. It may be all right for you to tell some man that he will be well after he has taken your blue mass and salts, because he has an attack of "biliousness"—this is a term which most of us use—but when you touch on the acute intoxication, should you give our whole cause away by using terms which the laity think they understand? For our own protection, is it not worth our while to avoid using terms which the laity think they know all about? The pessimistic views of Dr. Blech are as refreshing as was the cool breeze last night. I am not so pessimistic; I can not make a diagnosis of tuberculosis as early as Dr. Blech thinks he can. He probably can, and I shall look to him to teach us all.

Dr. Blech.—I wish to call Professor Cotton's attention to a little remark much in vogue in my native country. *Am Ende hat Jedermann ein bischen Tuberculose* (after all, everybody has a little tuberculosis).

"We are modifying our opinions about tabes and far more cases of this are amenable to treatment than has hitherto been believed."—*James Nevins Hyde.*

CEREBRAL CYST: REPORT OF A CASE.

BY VAN BUREN KNOTT, M.D.

SIOUX CITY, IOWA.

The object of this paper is simply to add to the evidence which is gradually accumulating in favor of operative interference in these cases, and to urge that those unfortunates so afflicted shall be given a chance for relief by surgery whenever the symptoms seem to make the localization of the tumor possible.

It must be admitted that brain surgery has not yielded the brilliant results which were confidently expected to follow in the wake of the more exact means of localization and improved operative technique. This has been especially true concerning the surgical treatment of intracranial tumors, for it is in just these cases where so much was expected and predicted that the results are as yet disappointing as a rule. However, in considering the application of surgery for the relief of these cases, we should not forget the point made by Ferrier, that we are dealing with a condition which, if allowed to progress without operative interference, is invariably fatal. From this point of view it would appear that the patient has everything to gain and little or nothing to lose from surgery properly applied.

The diagnosis and localization of the tumor are the essential points which must be settled before successful treatment can be instituted, and the most painstaking observation should be exercised that no sign or symptom which will assist in their determination shall be overlooked.

The case which I desire to report possesses no unusual features, but as this subject is one of great interest and practical importance I believe that all cases belonging to it should be reported, that a more definite policy concerning their management may be adopted. I have had some hesitancy about classifying this cyst under brain tumor proper, but Roswell Park says they are to be so classified when they involve the motor centers, as they then produce many of the symptoms of a tumor.

Eddie B., aged 14 years, entered the Samaritan Hospital in June, 1899. His father furnished the following history: About four years ago the boy fell out of a wagon, striking on his head. He was rendered unconscious by the fall and was carried into the house and placed in bed, regaining consciousness in about an hour. He remained in bed about three weeks, suffering considerably with dizziness, headache and inability to stand or walk. He gradually grew better until, at the end of four weeks, he was at play again as though nothing had happened. He continued in good health for about three years, when it was noticed that he was not walking properly: his right leg would drag, and he had a very noticeable limp. About this time it was noticed that his left eye was "crossed." Shortly after this he had a convulsion, which lasted only a few seconds and was not very severe. These attacks became more frequent and severe, until at the present time he has from six to eight in every twenty-four hours. From a bright, intelligent boy, he has become rather stupid and unobserving.

Present Condition.—He looks like a stout, healthy boy, well-nourished and of good color. There is complete paralysis of the external rectus of the left eye, with marked, left convergent strabismus. There is no impairment of visual power of either eye; no choked disc, nor optic neuritis. As he walks across the floor he drags his right foot, and examination reveals that he has practically no control of the extensors of the leg: knee-jerk is present, but very weak. The grasp of the right hand is about one-half as firm as that of the left, and the finer movements of the hand are impossible. He answers questions slowly and forgets easily. He complains of almost constant headache. There is a small scar on the left temple, which he says is where he was injured. Soon after his admission to the hospital he had a convulsion, lasting about five minutes. The nurse stated that the right arm and leg were simultaneously first involved, the seizure rapidly becoming general. This order was observed in the subsequent seizures, of which he had from five to eight in every twenty-four hours. The preliminary twitchings of the right arm and leg were very brief and were followed almost immediately by a general involvement of the muscles. Some of the attacks were of the minor variety; the head and eyes alone being fixed for some seconds. Following these attacks he would sleep for several hours, if undisturbed. He stated that it was very difficult for him to remember facts of any kind, and that he could not read as he could not connect the different sentences intelligently.

The nature of the case, together with the fact that he had been treated for about six months before coming to the hospital, with no benefit, seemed to contraindicate any further effort to relieve his condition medicinally, but the steadily progressive nature of the disease rendered interference of some sort imperative. The exact character of the difficulty was in doubt, but the paralysis of the left external rectus and the extensors of the right leg, together with the fact that his convulsive seizures first involved the right leg and arm, and that he had almost constant headache, seemed to indicate a neoplasm situated in the motor area of the brain. On the other hand, the absence of vomiting, optic neuritis and visual defects seemed to count against this conclusion. After carefully weighing the facts it was decided that the source of the trouble was localized rather than general, and I concluded to expose that portion of the motor area of the brain lying in front of the fissure of Rolando on the left side, containing the centers for the complex movements of the leg and arm, and just in front of which is the center for movements of the eye-ball. After the usual preparation, the fissure of Rolando was located by measuring with a strip of tin, which was so cut as to form an angle of 67 degrees. A point was selected on the scalp as lying about one inch in front of the upper part of the fissure of Rolando and at the posterior portion of the first frontal convolution, and an osteoplastic flap, about 1½ inches square, was raised. The bulging of the dura into the wound was very marked. It was incised and turned back, revealing a cyst with gray, glistening walls, presenting much the same appearance as an ovarian cyst. This was about the size of a quail's egg and imbedded in the brain tissue. It was incised, about one ounce of clear, straw-colored fluid escaping. The cyst wall was very thin and was dissected out with considerable difficulty, leaving quite a cavity, the latter being packed with iodoform gauze, the end of which was allowed to protrude from the most dependent portion of the wound, and the flap sutured into place. The gauze was removed at the end of forty-eight hours; the sutures were removed on the eighth day, the patient having made a perfectly uneventful recovery.

Subsequent History.—For the first twenty-four hours following the operation the patient had no convulsive attack; in the next twenty-four he had two, which were very light; and for the next seven days he averaged two slight attacks daily, which were marked more by a general stiffening of the muscles than by active movements. He has had none of these seizures from the tenth day following the operation to the present time. At the time of his leaving the hospital, two weeks after the operation, no improvement could be noticed in his leg, but he could use his hand very much better.

In a letter received from the boy's father, a few days ago, he states that his gait has improved somewhat and he considers his leg better. The strabismus remains unchanged. The boy has had no pain in his head since the operation, and seems brighter and more cheerful. It is, as yet, too soon to consider the relief so far afforded as permanent. However, in these cases a respite of even a few months is appreciated.

The point which I consider this case to illustrate is simply this: Every operation on the brain must be considered as largely exploratory, and promises of a definite result can not be made. Nevertheless, such operations properly performed will do no harm, and whenever in any given case the symptoms point to pathology, the localization of which seems probable, the patient should be given the chance for relief which may follow a properly-conducted operation.

PRIMARY TUBERCULOSIS.

NEPHRECTOMY AND SUBSEQUENT TOTAL RESECTION OF THE URETER: COMPLETE RECOVERY.

BY DUDLEY TAIT.
SURGEON OF THE FRENCH HOSPITAL.
SAN FRANCISCO, CAL.

M. M., aged 42, a commercial traveler, gave the following history: Hereditary antecedents negative; personal antecedents uninteresting; venereal antecedents negative; no ethylism; no arthritism. In the winter of 1895, his trouble began with a dull pain in the back—loin tire—accompanied by polyuria. In March, 1896, he was seized with sharp, shooting pains in the right loin, extending toward the corresponding testicle. Micturition became very frequent and painful. The urine was turbid, and shortly afterward decidedly purulent. He had days of comparative ease, followed, without apparent cause, by a period of radiating lumbar pain, spasms of the bladder and painful micturition. The turbidity of the urine invariably increased after each such attack. No hematuria—at least macroscopic—was noted. His condition did not change perceptibly during the following year, with the exception of frequent chills and severe headache. He was able to work, but always felt miserable. His loss of weight was 15 lbs. Pollakiuria and polyuria continued day and night. The purulent urinary sediment increased in quantity, with no gravel nor calculus at any time.

The patient consulted Professor Jacobi, of New York, in May, 1897, who diagnosed renal lithiasis. During the early part of 1898, he was treated, in this city, for cystitis. I saw him in consultation with Dr. Albert Abrams, July 3, 1898. Palpation revealed rigidity and tenderness over the right kidney and on the course of the corresponding ureter. No tumor was discernible, nor bulging of the loin. The prostate was somewhat enlarged, uniformly, and slightly painful to rectal palpation; seminal vesicles, cords, testicles, epididymes and urethra normal. The urine, acid, sp. gr. 1018, contained an enormous amount of pus, a few red blood-corpuscles, some hyaline casts, and numerous altered epithelial cells. No tubercle bacilli were found, although repeated tests were made by Dr. Abrams at various intervals. In view of the [illegible] the previous plans of treatment—i [illegible] ication various internal remedies—[illegible] oun of the failure to find tubercle bacilli in the urine, the vesical lesion was deemed of secondary importance. Harris' segregator was used with very little benefit; from the right side the urine proved remarkably purulent; from the left it was very much less so. Failure to wash the bladder thoroughly as a preliminary measure may account for this unsatisfactory result. Examination of other organs was negative.

A diagnosis of pyelonephritis, probably tubercular, was made.

July 8, 1898, lumbar nephrectomy was performed. Owing to marked infiltration of the perirenal tissues, and the friability of the kidney substance, the subcapsular method (Ollier) could not be used. Morcellement was, therefore, tried, two clamps were left on the pedicle for forty-eight hours and the wound was packed with iodoform gauze. The tissue removed was principally composed of nodular areas, and a series of caseous abscesses with characteristic tuberculous granulations on the walls.

No post-operative shock followed. The amount of urine during the twenty-four hours subsequent to the operation was 580 c.c. The amount of urinary sediment was remarkably diminished already. The urine of the second day—860 c.c.—and subsequently was perfectly clear, for the first time in over two years. Two hours after the removal of the clamps, the patient was seized with agonizing pain in the left side of the chest. Temperature was 39.2, pulse 140, respiration 58. Dyspnea was extreme, cyanosis marked, and there was a small amount of bloody expectoration. The usual cardiac and respiratory stimulants and hypodermoclysis proved useless, but intravenous injection of 1200 c.c. of salt solution caused an immediate favorable reaction. The diagnosis of septic pulmonary embolus was confirmed by radioscopy, and on the third day the purulent sputum contained the same variety of micro-organism —staphylococcus albus—as found in the lumbar wound. The subsequent course of the pulmonary complication was uneventful. On October 15, the wound was still refusing to heal, and the granulations soft, notwithstanding thorough curetting and use of chlorid of zinc, as advised by Roswell Park. The urine was normal, averaging 1100 c.c. daily; sp. gr. 1012.

On December 5, excision of 12 cm. of the ureter was made by the lumbar route. The ureter was hard, enormously thickened and strongly adherent to the adjacent parts, especially posteriorly—adiposclerous periureteritis. During the operation a small cut was made, by accident, in the peritoneum, but was closed immediately and caused no trouble.

On July 1, 1899, fistulæ still persisted and discharged pus intermittently, the patient occasionally complaining of severe pain and tenderness on the course of the ureter. The urine was normal qualitatively and quantitively.

On July 2, resection of the remaining portion of the ureter was done by the anterior retroperitoneal route, as for the ligation of the iliac. The ureter was easily found and followed close to its vesical end, after passing a probe through to the bladder, and was firmly adherent to the psoas fascia, and slightly so to the iliac vessels. A clamp was left at the junction of the bladder and ureter. Sections, made by Dr. Philip King Brown, showed characteristic tuberculous lesions.

The patient is at present in excellent health, generally and locally. His urine is normal and the average quantity daily is 1200 c.c. He passes the entire night without voiding urine. The prostate is hard, slightly irregular, but no longer painful to rectal palpation. He has gained 25 pounds in weight.

Since the interesting discussion—Israel, Kustner, D'Antona, etc.—that followed Tuffier's communication to the congress in Moscow, it has generally been conceded that certain forms of renal tuberculosis should figure no longer in medical or internal pathology, but be admitted to the domain of surgery, in a position therapeutically close to that occupied by neoplasms. The forms of tuberculosis referred to are: 1. The primary chronic form, nephrophthisis, or caseous form, comprising four varieties—nodular infiltration, tuberculous pyelonephritis, massive degeneration and tuberculous hydronephrosis. The first two varieties represent distinct stages of the same process. 2. Primary unilateral miliary tuberculosis, as described by Knowsley Thornton, Newman, and Stewart and Kelly of Philadelphia. This form may, however, be passed without comment, on account of its extreme rarity and difficulty of recognition. Furthermore, the necropsy findings in the case of Stewart and Kelly are too meager to warrant the assertion that the renal lesions were primary. A most searching histologic examination of the tonsils, cervical, bronchial and mediastinal lymph nodes is indispensable before drawing any conclusion in reference to miliary tuberculosis. The frequency of renal tuberculosis varies: 1.67 per cent. of all tuberculous cases (Morris); less than 1 per cent. (Furbringer); 5.6 per cent. at the pathologic institute of Prague. Rilliet and Barthez found 49 cases in 72 necropsies of children. Primary renal tuberculosis is much more prevalent than textbooks would have us believe: Israel found 10 per cent. of his kidney cases suffering from primary tuberculous lesions. Of 21 cases of tuberculosis of the kidney, the same author found 16 with primary renal lesions.

The urine in the most common form of renal tuberculosis—caseous pyelonephritic type—does not often contain tubercle bacilli (Israel, Newman). In tuberculosis of the bladder, on the contrary, they are almost invariably easily found. While a negative result in the bacteriologic analysis of urine is not evidence of freedom from tuberculosis, it must be remembered that the presence of tubercle bacilli in the urine does not necessarily indicate involvement of the urogenital tract. The bacilli may be carried by the blood from distant parts, and be eliminated through the urine without producing any morbid change in the kidney in evidence of their passage. I had proof of this fact in a case of bone and lung tuberculosis which presented, a few weeks prior to death, a marked retention of urine of scleroprostatic origin. Tubercle bacilli were found in the urine on two occasions. A most complete necropsy showed total absence—macroscopic and microscopic—of urogenital tuberculosis. Failure on the part of the kidney to arrest the bacilli may be logically ascribed to either the small number of bacilli or to the pronounced resistance of the renal tissue.

The coexistence of other tuberculous lesions in the urogenital tract, either through primary infection or secondary descending infection, has caused many surgeons to reject operative measures in renal tuberculosis. This opinion, however, is singularly weakened by the knowledge of the great prevalence of the descending form of infection, and also by the disappearance or marked amelioration of vesical symptoms after nephrectomy (Tuffier, Israel). Furthermore, the cystitis accompanying renal tuberculosis is very frequently due to other micro-organisms than Koch's bacillus. Israel found cystitis in 43 per cent. of his operative cases.

Bilaterality of renal lesions is a more serious consideration. Besides being rare—17 per cent. of advanced cases, Vigneron; 14.3 per cent. Israel—the tuberculous lesions in the second kidney, due to ascending secondary infection, are invariably very much less pronounced than the primary. The second kidney is more frequently the seat of ascending pyogenic uretero-pyelitis, amyloid degeneration, etc., which may or may not prove a contraindication to nephrectomy. Cornil proved the possibility of spontaneous cure of renal tuberculosis by fibrocalcareous transformation, or by granulation and cicatrization after evacuation of the tuberculous foci through the urine. But these facts concern the medical forms rather than the surgical, as Rosenstein has shown that marked symptoms seldom develop before the mucosa of the pelvis or ureter becomes involved, or until caseous cavities rupture into the pelvis.

The remote results of nephrectomy for tuberculosis are of great interest. In January, 1898, Bangs collated 135 cases, with only 10 prolonged survivals—over two years. Although complete in many respects and admirably classified, Bangs' communication is necessarily unsatisfactory, inasmuch as it simply mentions the patients' condition at the time the cases were reported by the various operators, many of whom showed undue haste in publishing their work. Israel is more encouraging: of 21 cases, 6 were living—July 14, 1898—one after nine years. Verhoogen (1899) reported 4 cases in good health after two, six, six, and 6½ years. Of 18 cases, Koenig reports 1 well after 12 years, 1 well after 6, and 3 in good health after 2½ years. Tuffier and Bazy have obtained equally favorably results. Two of my personal patients are in perfect health six and 1½ years after nephrectomy.

The points of interest in the case which prompted the present paper are: 1. The perirenal tuberculous infiltration (Guyon), a rare and troublesome condition, complicating both the operation and the subsequent treatment. 2. The absence of vesical lesions. The latter fact throws some light on the much-discussed cause of certain symptoms of renal tuberculosis: cystalgia, painful spasms of the body and neck of the bladder, pollakiuria, frequent uncontrollable and painful micturition. Guyon ascribes the foregoing condition to a coexisting infiltration of the vesical mucosa by Koch's bacillus. Le Dentu and most of the English authors—Newman, Roberts, Morris—explain all the symptoms by a renovesical reflex. The case here reported is certainly strong evidence in favor of the reflex theory.

1054 Post Street.

CASTOR-OIL IN THE TREATMENT OF NEURALGIA.*

BY HAROLD N. MOYER, M.D.

CHICAGO.

Three years ago, Dr. A. J. Ochsner, of this city, called my attention to the value of castor-oil in the treatment of neuralgia, particularly of the fifth nerve. He stated that he had seen this substance recommended in a German medical journal, but was not able to give the reference. Since that time I have diligently examined the literature, but have been unable to find the article in question. Dr. Ochsner said that his results in the treatment of facial neuralgia had been brilliant, he having had as many as thirteen consecutive cases that had come to the surgical clinic at Rush Medical College for operation, all relieved, or greatly improved, by the use of castor-oil. While I can not report a series of cases as lengthy and successful as those treated by Dr. Ochsner, yet the results of this method in my hands have been superior to those of any other treatment.

During the last two years I have treated about fifteen cases of neuralgia by this method, but only seven of these were under observation sufficiently long to enable one to speak definitely of the results of the treatment. Five of these were neuralgias of the facial nerve, and two were typical cases of brachial neuralgia. Both the latter were comparatively recent in development at the time treatment was begun, and one of the cases of facial neuralgia had begun but two weeks before. Of the cases of brachial neuralgia, one had lasted one and the other two weeks. The one of the shorter duration was exceedingly severe and had been under the care of a competent neurologist for more than a week. Electricity, and other remedies had been employed, but without giving the slightest relief. This patient was given a large dose of castor-oil at 1 o'clock, and by 4 the pain in the arm had largely decreased; the following night he rested well and the next morning the pain had practically ceased. He took three or four doses of the oil afterward; there was no return of the pain.

An acute, and recent case of neuralgia of the inferior dental nerve was cured in two weeks. The pain began in the inferior dental and at the end of two weeks had extended to the middle division of the facial nerve. The pain was very severe, but the case was entirely cured after a two weeks' course of castor-oil.

The results in acute neuralgias have been, as might be expected, better than those observed in the chronic, but even in the latter, only one failure can be charged to the method. A patient with a neuralgia of the third division of the nerve on one side continued the treatment for between two and three weeks without the slightest improvement in the symptoms.

Another case was that of a man aged 34, who had typical tic douloureux which began in the left supraorbital branch at 17 years of age. The duration, therefore, at the time he came under observation, was seventeen years. The pains were distinctly paroxysmal, coming on at periods of from about five minutes to an hour. At the time he came under observation, all three branches of the left side were involved, and he came asking for operation, having heard that section of the nerves sometimes improved these cases. The pain had been so severe as to markedly impair his general health, and there had been a marked loss in weight. The administration of the oil was followed by a prompt improvement of the pain, and, while the patient can not be said to have been cured, as the spasm remains and there are occasional twinges of pain, yet he says he is much more comfortable than he has been in years, and if the pain is not more severe than it has been during the past winter, he will consider himself quite well.

Another case was that of a man 37 years of age, who had neuralgia which began on the right side of the face and had lasted for five or six years. Three years ago, the infraorbital nerve was divulsed. Six months before coming under observation, the disease appeared on the left side of the face and he came asking for surgical relief. Treatment was begun, and at the end of a week the pain had entirely disappeared, and there has been no return up to the present time. This case was one of the most brilliant in its results, although it was nearly duplicated by a case of supraorbital neuralgia of fifteen years' duration, which [illegible] adm [illegible] of the first half dozen [illegible]

---

* Read before Chicago Academy of Medicine.

In the case which was described, where there was no improvement from the use of the oil, an examination of the eyes showed mixed astigmatism and a well-marked eye strain.

The oil is administered in the morning before breakfast, and the dose is from one to two ounces. As a rule, patients have little difficulty in taking the larger amount, though in some cases it was difficult to keep this amount on the stomach. At first patients were left largely to their own devices as to the methods of taking the oil, but later care was taken in directing the preparation, with a corresponding improvement with the ease with which it was taken and with the persistence with which they held to the treatment. Castor-oil, if kept for some time, and as it is ordinarily found, is quite offensive to most people, but it is very much improved by a thorough washing and the addition of a few drops of the essence of anise to each pint of oil. The most efficient means of administration is in ale—preferably Dogshead, or Bass's ale, which contains a large quantity of gas, and which should be poured from the bottle in such a way that the glass contains a large quantity of foam. The oil is poured into the ale, stirred a few times with a spoon, and then may be drunk without tasting the oil. The mixture with the ale forms an emulsion, and there is much less liability of the oil disturbing the stomach. When first administered, the oil acts freely on the bowels, but if it is continued daily, its cathartic effect rapidly diminishes; and it is not infrequent for patients to state that they have but a single movement of the bowels after the third or fourth dose.

An interesting speculation might be entered on, as to how castor-oil acts in relieving neuralgia. That it is not due to the cathartic action of the drug is, I think, clearly shown by the fact that other cathartics and laxatives are of no value in relieving this condition. The physiologic action of castor-oil has not been definitely determined. Butler says that it is a combination of glycerin, fatty acids, and ricinoleic acid. This combination passes the stomach unchanged, and, in the presence of the bile and pancreatic juices, is broken up into its component parts; sodium ricinoleate is formed, which has marked irritating properties. A very significant observation of Butler's is that he is inclined to attribute anodyne properties to the drug, as he has frequently observed that it acted as a sedative in children, in those cases in which no movement of the bowels was produced. Buchheim was the first to claim that ricinoleic acid was the purgative principle, but this has been questioned, some writers taking the view that the purgative principle of castor-oil was due to something dissolved in the oil, and which existed in very small quantity. Late experimental work shows that the older opinion of Buchheim is probably correct, and that the cathartic action is to be attributed to the ricinoleic acid. It is probable that other substances are present in castor-oil which have not been fully identified, and it is possible that this may have some effect on the sensory nerves.

DISCUSSION.

Dr. Hugh T. Patrick—The administration of castor-oil has been my routine treatment for trifacial neuralgia since the fall of 1896, at which time I first learned of its efficacy from Dr. Ochsner. Since then I have employed it in at least a dozen cases, and, with two exceptions, always to the great benefit of the patient. Before determining on its use it is necessary to make an accurate diagnosis. In my experience *migraine* and other headaches are very frequently miscalled neuralgic, and I wish to emphasize the fact that the castor-oil is of no avail in such headaches. Not having followed the subsequent history of my cases, I am unable to affirm a permanent cure, but I can substantiate the statement of Dr. Moyer that the effect is sometimes strikingly brilliant. I administer the remedy very much as he does.

Dr. C. E. Paddock—In reference to the sedative action of the oil in children when there is no bowel movement, I have often noticed this action, but ascribed it to the fact that the trouble had probably been in the small intestine, from where it had been carried down into the lower bowel, and the cause of the trouble was in this way removed without any bowel movement. I thought it due to the mechanical rather than the physiologic action of the oil.

Dr. James G. Kiernan—There are two factors attached to the therapeutic use of castor-oil; a purgative one and—as shown by the untoward effects—an undoubtedly, neurotic factor which is certainly due to ricin or phytalbumose, as it is now called. This last has an action on certain nerves not unlike the action of belladonna. In considering the value of castor-oil this influence must be taken into consideration. Furthermore, such a factor would explain the condition which has been described by Dr. Patrick, in which the constitutional and the local treatment were both markedly affected. This condition should be reversed if due primarily and simply to the purgative factor of the oil. If, however, it is to be assumed that this phytalbumose has a neurotic action, the condition which Drs. Moyer and Patrick have described should be expected to occur.

Dr. Gustav Fütterer—The effect of the oil may be due to either one of two possibilities: 1. Castor-oil is a powerful irritant and, by producing a hyperemia of the gastrointestinal tract, other parts are relieved. It is, in fact, such a powerful irritant that it should not be given in cases in which there is any irritation of the stomach. I have seen very serious results follow its administration under such conditions. There is another point to be taken into consideration, i. e., autointoxication. Many years ago I found that fats of a certain density enveloped bacteria, thus preventing their growth and multiplication. If autointoxication is the cause of conditions as were mentioned, then this action of the oil must be considered.

Leaving aside a direct antiseptic effect, the conclusion I have arrived at is that certain fats envelop bacteria and mechanically prevent their multiplication. It has always been my opinion that the effect of the castor-oil was not only a purgative but also a mechanical one. It envelops bacteria and prevents decomposition in the intestinal canal and a consequent antointoxication. The oil in this respect is better than any other laxative we have.

Dr. C. E. Paddock—I would like to ask the Doctor how he administers the oil?

Dr. Fütterer—A good way to disguise the taste is by first putting a tablespoonful of raspberry syrup into a glass, then adding a tablespoonful of cold pressed castor-oil, and then some rum.

Dr. Paddock—Hirst, in his work on obstetrics, advises giving it in warm milk, but I fail to see how that can disguise the taste.

Dr. H. N. Moyer, closing the discussion—I had purposely refrained from enlightening you as to how castor-oil acts in relieving neuralgia, because I do not know. I closed my paper with some hints, as you might say, which would lead me to think that the castor-oil is a very complex body. It may contain substances which have not been identified and which may be apart from the cathartic action of the oil. I have been much interested in what Dr. Fütterer said in regard to its mechanical effect by enveloping bacteria. It might act that way in an intestinal fermentation; nevertheless, the fact remains that there are other substances in the oil, the physiologic properties of which have not yet been studied.

I am gratified that the experience of Dr. Patrick so nearly parallels mine. I think I have had one or two more rather striking successes than he had, but he agrees with me in the main. I agree with Dr. Patrick that in the treatment of migraine the oil is useless. In tic douloureux its efficacy is most marked.

In regard to its administration, elegant pharmacy includes the washing of the oil. Most oils as found in the shops are somewhat rancid. Castor-oil at the ordinary room temperature soon develops acridity and properties which give it a disagreeable taste. Oil when shaken with water a few times soon loses these properties and a little essential oil will materially improve its palatability. The "sandwich" which Dr. Fütterer describes is an admirable method. I believe the best way in adults is in ale, particularly the Dog's Head and Bass ale, as they contain considerable gas and foam readily. Pour out a couple of spoonfuls of ale so that it foams, drop the oil into the tumbler, stir it a few times with a spoon and then drink it. It is quite tasteless.

RESECTION IN CASE OF UNUNITED FRACTURE OF FEMUR.*

BY I. P. KLINGENSMITH, M.D., F.S.Sc.
Surgeon to Pennsylvania Railroad; Secretary of Indiana County (Pa.) Medical Society; Fourth Vice-President of the Medical Society of the State of Pennsylvania; Member of the American Medical Association; Member British Medical Association, etc.
BLAIRSVILLE, PA.

Non-union in a fracture may depend on a variety of causes, some of them inherent in the parts themselves and others connected with the system, but the fact should be borne in mind that a vast majority of these cases are the result of mismanagement growing out of the physician's want of attention and skill.

The history of the case in question, furnished by those conversant with the facts, is as follows: The patient, a man 40 years of age, married, of good family history, and personally physically sound, on Jan. 5, 1899, was, in conjunction with his partner, operating a steam chopping mill, when from some unknown cause an explosion of the boiler occurred, the patient being struck on the left femur, by a piece of steam pipe, producing a fracture at the junction of the middle and lower thirds. A practitioner was called in and had the case under observation for a period of nine weeks, at the end of which time he evidently discovered that his efforts to bring about a favorable result had not been attended with success. The family at the same time becoming dissatisfied, dispensed with his further services and on March 8, called in Dr. A. D. Miller, of Blacklick, Pa., who diagnosed a case of ununited fracture of the femur. On the day following the writer saw the case in consultation with the then attending physician, Dr. W. L. Reed, of Branch, Pa., also being present. The patient was emaciated, nervous and excitable, and presented the appearance of a man whose health had suffered much. After a careful examination the existence of an ununited fracture was corroborated. All efforts at reduction proving unsuccessful, notwithstanding the fact that the physical condition of the patient was not favorable for surgical interference, it was the consensus of opinion that resection was the only method of procedure that would offer a reasonable prospect of recovery; it was therefore decided to operate on the afternoon of March 10.

The operation was done by the writer, with the assistance of Drs. W. L. Reed, of Branch, A. D. Miller, of Blacklick, and Norman Lewis, of Blairsville. A longitudinal incision of sufficient length, and so as to thoroughly expose the parts, was made on the outer aspect of the limb, revealing a *transverse* fracture with the ends of the bones overlapping about two inches, the lower fragment lying to the outside and behind the upper fragment, some fibrous cartilage having been thrown out on the apposed surfaces, forming a false joint. I then sawed about one-fourth inch off each fragment, brought the ends together and fastened them by transfixing with Wyeth's movable steel drills. The external wound was drained, sutured and a sterilized dressing applied, in fact the whole technique was conducted under the strictest aseptic precautions. The limb was immobilized in a firm fracture dressing. The entire operative procedure occupied a very short period of time, and every precaution was taken to avoid shock, yet the patient died sixty hours after the operation.

THE SMEGMA BACILLUS.

BY OSCAR A. DAHMS.
CHICAGO.

Soon after Lustgarten, of Vienna, published, in 1884 and 1885, his investigations in regard to the micro-organisms occurring in syphilitic foci, and expressed his conviction that these micro-organisms stand in a causal relation to syphilis, it was discovered by Alverez and Tavel, and Matterstock, and confirmed by Cornil, Klemperer, Doutrelepont and others, that in the smegma of the prepuce and vulva of healthy individuals a bacillus could be demonstrated which, neither morphologically nor in staining properties differs from the supposed bacillus of syphilis. The doubt which already existed in many minds concerning the specific nature of Lustgarten's bacillus was increased by this discovery, and it became a much-discussed question whether or not the organism found by Lustgarten in syphilitic lesions should receive any serious consideration whatsoever.

Occurrence.—Although the smegma bacillus occurs with great constancy and in large numbers in the smegma of the prepuce of the male, in the grooves between the labia majora and minora of the female, and about the perineum and anus in both sexes, it has been obtained from cerumen of the ear by Gottstein and Bitter, from the cutaneous surface in various parts of the body by Laabs, and even from the coating of the tongue and teeth by Bunge and Trantenroth. The author has been able to demonstrate the presence of the bacillus in all these portions of the body by the use of the appropriate stains. As a rule, the cleanliness or uncleanliness of the individual was the principal determinative factor in regard to the number of bacilli found on the skin; the longer the secretions of the sebaceous and sudoriferous glands had been allowed to accumulate, the greater was the multitude of micro-organisms revealed by the microscope.

Scrupulous care of the condition of the teeth and of the oral cavity in general eliminates the possibility of finding the organisms on the structures within the mouth.

On that portion of the clothing which is in immediate contact with the integuments of the axilla and perineum, it was possible to find without special difficulty, those bacilli which had been removed from the skin by friction. During the summer months the organisms were particularly abundant on the garments, which is, indeed, to be expected on account of the softening of the accumulated cutaneous secretions by the perspiration, and the favorable conditions thus occasioned for the removal of the sebum by mechanical means, and its absorption by the cloth. Washing of the fabric in water containing a small percentage of alcohol, the subsequent gentle but complete evaporation of a portion of this fluid on a cover-glass held high above the flame of a spirit lamp or Bunsen burner, and the staining of the thin film which remains, will suffice to disclose the bacilli.

For the reasons that the fold of the groin, the arm-pits and the grooves of the umbilicus are not only less easily accessible to cleansing influences than other parts, but are also so formed anatomically as to most readily retain the secretions of the cutaneous glands, large numbers of smegma bacilli were frequently found to occur in these situations. Moreover, the micro-organisms were often found lodged in the mouths of sebaceous glands.

---

*Read before the Indiana County Medical Society, Indiana, Pa., May 9, 1899.

A careful examination of the sediment obtained from numerous specimens of urine by the method devised and recommended by Haines and Skinner,[1] in most instances revealed the presence of smegma bacilli, although frequently, on account of the paucity of the micro-organisms, the most diligent and long-continued search was required. As might have been expected, the urine of females contained, as a rule, larger numbers of the bacilli than that of males. Grünbaum was able to discover smegma bacilli in the sediment of centrifuged urine of females in 59 per cent. of the specimens examined, but in the urine of males he only rarely succeeded in finding the organisms. Czaplewski observed the presence of the bacilli in sputum.

Morphology.—Little is known in regard to the biologic position of the smegma bacillus. Ledoux-Lebard supposes that the organism is a species of sclerothrix. The bacilli bear a remarkable resemblance to Lustgarten's syphilis bacilli, and to the bacilli of tuberculosis and of lepra, and from a purely morphologic standpoint it is often impossible to distinguish, with any degree of certainty, between these various organisms. As obtained from preputial smegma, the bacilli appear as well-defined, slender, gently-curved rods, with extremities of rounded contour. In length they vary from 3 to 5 microns, in general width from .25 to .75 microns. Marked morphologic variations are frequently manifest—while the bacillus is at one time a long rod of slender appearance, one end of which occasionally possesses an easily distinguishable enlargement, at other times the organism is small, short and plump, and lacks the usual curvature. Sometimes the ends taper gradually to points. Bitter described eight forms of the bacilli as they occur in smegma. The enlargement at one extremity is particularly noticeable in those derived from potato-cultures. In fact, different media produce differently-appearing bacilli; and these variations are no doubt due to the different reactions of the media, and the difference in the rate of development of the organisms. The latter attain the greatest length in potato cultures and on nutrose serum. According to Czaplewski, bacilli from nutrose-serum cultures most closely resemble Lustgarten's syphilis bacilli. Very plump organisms develop on gelatin, and the same medium produces curved rods with enlarged extremities, as well as bacilli of uneven outline. Cultures on Löffler's blood-serum are frequently characterized by short and granular forms.

After staining with carbol-fuchsin methylene blue, the so-called "sporogenic bodies" are not infrequently visible; both ends of a bacillus having taken on the red color, while the middle portion remains unstained. In this case the microscopic appearance of a group of the bacilli will at first sight resemble that of an aggregation of cocci. Gram's method frequently has the same effect. An examination of the bacilli in the hanging drop demonstrates their incapability of independent motion.

Bacilli derived from colonies on glycerin-agar, or from any medium on which the organisms multiply rapidly, reveal, when stained with carbol-fuchsin, evidences of the manner of their development. In such specimens, bacilli consisting of several oval segments are plentiful. Scattered about throughout the field there can be seen numerous egg-shaped bodies identical in size, shape and color with those composing the bacilli, but entirely separate and distinct from the latter. Besides these, the observer will notice the presence of small rods intermediate in length between the two forms mentioned. Developing colonies examined at intervals show an alternate preponderance of the long and of the short organisms.

The most rational conclusion to which a consideration of these facts leads is that each bacillus splits up into a number of oval bodies, which grow in length until they have developed into bacilli. When the organism has matured, it undergoes the same process of division, breaking up, in its turn, into small protoplasmic masses which subsequently increase in size.

Differences in the degree of curvature possessed by different bacilli are apparently dependent on the position of each organism in the colony. Those bacilli forming the innermost circles in the colony show the greatest curvature, those composing the straight filaments display none at all.

The writer's attempts to stain bacilli in syphilitic lesions and secretions by the methods of Lustgarten, De Giacomi, and Doutrelepont, made with the intention of comparing the bacilli of Lustgarten, if found, with those present in smegma, were invariably unsuccessful.

Staining.—The smegma bacillus, although peculiar in its behavior toward tinctorial solutions, is readily stained for microscopic examination. Ordinary carbol-fuchsin may be employed to good advantage when there is no necessity for resorting to the more complicated tinctorial methods designed to differentiate this organism from others. A fresh solution of this stain will impart its color to the bacillus after an application of a few minutes' duration. Gentle heat will hasten and favor the staining process.

To prepare a specimen of the organism a small quantity of smegma may be obtained from the prepuce of the penis of the male, or from the vulva of the female, and spread on a clean cover-glass. This film is then dried and fixed in the usual manner, in the flame of a Bunsen burner, care being observed that the specimen is not charred by the application of too high a temperature. The glass having been allowed to cool, the solution of carbol-fuchsin is applied, and left in contact with the organisms for some minutes, the staining-fluid being at the same time carefully heated. Hereupon the preparation is washed thoroughly in water, and, if a permanent slide be desired, dried and mounted in Canada balsam. The observer who is familiar with the appearance of the smegma bacillus will experience no difficulty in distinguishing this micro-organism among the numerous other forms of bacteria constantly present in smegma.

Another convenient process for the preparation of specimen slides, and one which possesses the advantage of being a double stain, is the following: Hot anilin-fuchsin is first used, and after having remained on the cover-glass for a short time, is washed off, and the specimen decolorized by means of 5 per cent. sulphuric acid. Methylene blue is employed as an after-stain. Smegma bacilli remain red, while other organisms assume a blue color.

Basic aniline dyes serve as tinctorial agents, and the methods of Gram-Weigert and of Gram also succeed in staining the bacillus. The latter's method is, however, not a useful process for purposes of differentiation.

Bacilli which Czaplewski obtained from cultures one or two days old showed a remarkable resistance to decolorizing solutions. The red color of anilin-fuchsin could not be removed by 5 per cent. sulphuric acid, 30 per cent. nitric acid, alcohol, sulphuric acid-alcohol, hydrochloric acid-alcohol, nor even by the subsequent application of methylene blue. This resisting power of the bacillus has frequently been made the basis for differentiation, but it will be seen later that those differential stains which have from time to time been devised have not been universally applicable. By boiling in alkalies and alcohol the resistance to decolorization is lost.

---

[1] An Improved Method of Detecting Casts in the Urine. Walter S. Haines, A.M., M.D., and J. E. Skinner, M.D.—THE JOURNAL, Jan. 29, 1898.

Cultivation.—After the discovery of the smegma bacillus, attempts were immediately made to cultivate the organism, but in spite of the most scrupulous care such efforts constantly resulted in absolute failure and until quite recently, pure cultures of smegma bacilli had never been produced. Doutrelepont claimed to have obtained colonies which Bienstock and Gottstein considered to be growths of the bacilli, but the efforts to prepare pure cultures therefrom were not attended by success. To Hugo Laser of Königsberg is due the credit for having made, in 1897, the first successful cultivation experiments, and for having isolated the bacillus on suitable media for the first time.

Laser's success was attained accidentally, while he was in pursuit of an entirely different object. This observer began his experiments for the purpose of pursuing studies in regard to syphilis, and with this end in view, prepared numerous slides from the secretions of ulcera dura and condylomata lata situated at the anus and on the scrotum. After the preparations were stained with an aniline dye, large numbers of micro-organisms were visible under the microscope. Because of the resemblance existing between syphilis, tuberculosis and lepra, Laser then stained his specimens in the manner originally devised by Koch for the tubercle bacillus, viz., carbol-fuchsin, nitric acid, alcohol, and methylene blue. Bacilli were thus disclosed which resembled those of tuberculosis, and displayed the characteristic red color. Having satisfied himself by very careful examinations that his patients were not tuberculous, Laser excised a number of condylomata and ulcers, but failed to find the same bacillus within the syphilitic tissues. Consequently, he regarded the micro-organisms not as syphilis bacilli, but as the bacilli of smegma.

Slants of agar-agar with their surfaces daubed with sterile human blood were prepared, and, after these had been kept in a brood-oven for twenty-four hours, to prove their perfect sterility, were inoculated. A similar medium was poured into Petri dishes, and inoculations made on the surface thereof.

Small colonies developed, which resembled colonies of diphtheria bacilli or of streptococci, and proved to be pure cultures of smegma bacilli. These micro-organisms were transferred to blood-serum and glycerin-agar, with the result that small drop-like colonies formed along the path of the needle. Cultivation was then attempted on the ordinary media, and the following observations made:

No development occurred on gelatin. On agar slants and dishes a sparse growth took place after several days, a temperature of 37 C. being maintained. In peptone-water and in bouillon a growth was hardly noticeable.

In glucose-bouillon a marked development was manifest. Stab-inoculations in agar and glycerin-gelatin developed but slightly, and only in the upper part of the path of the needle, with no extension over the surface of the medium. After three days no growth could be seen on potatoes, but on scraping the surface the presence of bacilli was demonstrable.

No great length of time had elapsed after the completion of Laser's observations, when Czaplewski, engaged in making cultures of gonococci on the nutrose-serum-agar recently recommended by Wassermann, accidentally observed the development of colonies which were shown by tinctorial and microscopic investigation to be composed of smegma bacilli. From these first small, irregularly rounded colonies on nutrose-serum-agar, Czaplewski then obtained, by means of direct transference and fractional cultivation, pure cultures on serum-plates. He demonstrated that a temperature of 37 C. is most favorable for the development of the bacilli, although at 23 C. a growth still occurs.

In his cultivation experiments the author resorted to the means used by Laser, in order to obtain the first colonies. Agar slants were smeared with human blood, under the strictest precautions of bacteriologic cleanliness; when no growth occurred after forty-eight hours in the brood-oven, at 37 C., the slants were regarded as sterile, and were then inoculated with smegma. As these experiments were carried out during warm weather, no brood-oven was required for the growth of the organisms for after several days a development of bacteria was noticeable. Numerous small round colonies had formed, which the microscope showed to be made up for the greater part of micrococci, while smegma bacilli were sparingly interspersed among these organisms. Attempts to separate these on glycerin-agar by means of smear-culture failed, as the micrococci developed so enormously in excess of the bacilli as to make any efforts at separation in this manner useless. The original slants were therefore observed for several days longer, and there then could be seen a few small, delicate, irregularly-rounded, grayish-white colonies, which microscopic and tinctorial examination proved to consist of smegma bacilli. As a limited number of cocci could still be detected among the bacilli, the growths were cleared of these in the following manner: A small portion of the colony was removed on a sterile platinum wire and transferred to 50 c.c. of distilled water. After thoroughly shaking the liquid, for the purpose of disseminating the organisms throughout its mass, 1 c.c. of the water was spread over the surface of glycerin-agar in a Petri dish. In this way pure colonies of smegma bacilli were obtained. Various other media were then inoculated with the organisms, the brood-oven was put into service, a temperature of 37 C. maintained, and the following results observed: *Agar: Smear-Culture.*—After several days a growth was visible. The color of the latter was grayish. The bacilli had not developed abundantly. *Agar: Stab-Culture.*—The development of the bacilli was limited to a slight growth in the upper portion of the track of the needle. The surface of the agar remained free from the organisms. *Glycerin-Agar.*—After twenty-four hours a growth could be distinctly seen, occurring as a grayish, well-defined layer. After forty-eight hours a thick, yellowish or grayish white growth had formed. The margins of the latter were sharply defined; indented, and lobulated in appearance. *Peptone-water.*—The growth in this medium was flocculent, and grayish in color, but exceedingly scanty. *Bouillon.*—After twenty-four hours a slight whitish sediment was noticeable. After forty-eight hours the bouillon was clouded, and a sediment had formed, which, upon shaking the tube, loosened itself in shreds. *Potato.*—A scanty growth was apparent after several days, in the form of a yellowish layer, of irregular shape and indefinite outline. *Loeffler's Serum: Smear-Culture.*—After twenty-four hours a growth was scarcely visible, but after forty-eight hours colonies had developed. These were of a yellowish-gray color, and varied in size from minute specks to areas 1 mm. in diameter. By confluence these colonies later formed a distinct layer.

The following results were obtained with gelatin media, kept at room-temperature for five days: *Gelatin: Smear-Culture.*—The material which had been transferred to the surface of the slant increased in size and apparently became denser, finally forming a thin round layer resembling a drop of wax. Besides this, no colonies were visible. *Glucose-Gelatin: Stab-Culture.*—At the point of entrance of the needle into the medium, a sparse development was visible. The surface was not invaded by the developing organisms. The growth which developed was yellowish in color and sharply outlined.

The reliability of milk as a culture-medium for the smegma bacillus was first pointed out by Grünbaum.

In appearance, colonies of smegma bacilli, when examined under the microscope, simulate wax to an extraordinary degree. They are white, or nearly so, dense and finely granular with sharply-defined margins. Although the colonies are by no means always circular, yet their circumferences present no sharp, angular indentations nor fibrillar outgrowths, but when irregularities in outline exist, they are met with in the form of rounded lobules and extensions.

By gently pressing cover-glasses upon colonies of smegma bacilli, and staining the films thus obtained, the writer was able to occasionally discover a similarity in the manner of growth of the colonies of smegma bacilli and that of colonies of the bacilli of tuberculosis. Under magnification the bacilli were seen to lie behind each other with their long axes in the same line, sometimes forming portions of concentric circles, sometimes branching out at various angles and producing long, parallel, interrupted filaments. Wavy lines of bacilli were occasionally visible. The striking and characteristic features were the end-to-end approximation and the frequent parallel arrangements of the filaments thus formed. Large flat colonies on glycerin-agar gave the best results in this work. The inability to prepare specimens similar to each other in appearance, the author is inclined to attribute partly to the difficulties of growth in unfavorable media, partly to imperfect means for obtaining correct cover-glass impressions. Obviously the colonies would develop in the most characteristic manner on those media which favor a rapid and luxuriant proliferation of the organisms composing them. A study of the structure of the colonies in the hanging drop gave similar, but not equally good, results.

Inoculation Experiments.—It has frequently been asserted that a perfect identity exists between Lustgarten's bacilli and the bacilli of smegma, while observers no less eminent than those who hold this view, have maintained that these organisms are distinct species. The discussion of this question continued for many years, and only after Laser had succeeded in producing pure cultures of the smegma-bacillus could it be asserted with any degree of positiveness that although Lustgarten's bacillus may or may not be the specific cause of syphilis, the smegma bacillus, at any rate, is free from pathogenic properties.

Subcutaneous and intraperitoneal injections of smegma bacilli into white mice and guinea-pigs failed to produce the slightest disturbances in the health of these animals. Similar injections were made into the systems of rats and rabbits with the same results. An injection into the anterior chamber of the eye of a rabbit was followed by transient inflammation which subsided without evil effects. Dogs and cats were then experimented on. Neither local nor constitutional manifestations of an abnormal condition were produced. A number of these animals were killed after from four to six weeks, others after four months, and a careful examination of all organs made, but no traces of disease were found. Several animals were exposed for a time to the debilitating influences of close confinement and poor food after the injections were made, but the ultimate result of the introduction of the micro-organisms remained the same. Even when subcutaneous fractures, tissue-lacerations and injuries to abdominal viscera were artificially produced in an endeavor to cause a localization of the bacilli, there could not be found, post-mortem, any evidences of such centralization having been brought about. Experiments on pigeons and fowls served to add further proofs of the non-pathogenic character of the bacillus. While engaged in the above work, the writer had an opportunity to inject smegma bacilli into the peritoneal cavity of a monkey. No immediate disturbances followed, and after seven months the animal was not only still alive, but apparently in the best of health. Feeding experiments were unproductive of deleterious results.

Implantations of pure cultures of smegma bacilli into small incisions made by the writer in the skin of his own arm, interfered in no way with the rapid repair of these slight cutaneous wounds.

(To be continued.)

SPECIAL ARTICLE.

RELATIONS OF PHARMACY TO THE MEDICAL PROFESSION.*

1.

In discussing the relations of pharmacy to the medical profession as especially involved in the advertising and patronage of medicinal articles, a preliminary résumé of the object and purpose of the Pharmacopeia may not be out of place, since by its standard alone can the ideals of pharmacy be compared.

A brief retrospect of the history of medicine will disclose the slow growth by which uniformity in medicine has been fairly secured throughout the world, by the creation of pharmacopeias. During the Middle Ages medicine had largely lost the prestige gained by its early classic writers, such as Hippocrates, Æsclepiades, Dioscorides and Galen. The confections of Andromacchus and Damokrates, the toxicology of Mithridates, the "Quid pro Quo" of Zanensis, the "Antidotorium" of Nicolaus, had been superseded by superstition and fetichism, the "abracadabra" and "tabula smaragdina" of Hermes Trismegistus, the incantations and the amulet, until the mysticism and fanaticism of the alchemists—the philosopher's stone and the elixir vitæ—held complete sway over Europe.

Not until the advent of Paracelsus, in the fifteenth century, did the medical world emerge from this condition, which had retarded civilization for centuries, and lay a foundation for scientific development and progress. The secrecy and lack of uniformity in medicines during these times prompted various medical authorities to collect and publish information concerning the remedies then in use, under the name of Dispensatories. During the sixteenth and seventeenth centuries these dispensatories became so numerous as to cause considerable confusion in the identity and uniformity of medicine, through the rivalry of their respective authors—every medical man of any considerable reputation feeling it incumbent on himself to issue a Dispensatory, with a finely-engraved likeness of the illustrous author for title-page. This redundancy of medical formulas led to the formulation of pharmacopeias, published by the authorities of the large cities to secure some degree of uniformity for their respective localities. At the close of the eighteenth century nearly every capital of Europe had a pharmacopeia, and these have since been superseded by national works for their respective countries, compiled under the direction of government authorities.

---

* The first of a series of articles to appear weekly in THE JOURNAL, designed to correct the abuses from advertising and patronizing pharmaceutical specialties.

The pharmacopeia for the United States first appeared in 1820, and is revised decennially by a committee elected by a convention, to which the national and state medical and pharmaceutical associations and medical and pharmaceutical colleges are entitled to delegate representation. While the United States Pharmacopeia is not legalized by Federal statute, it is recognized by the medical branches of the Government—the Army, Navy and the Marine-Hospital Service—each branch being represented on the committee. It is, however, made the legal standard in each state of the Union, through the pharmacy acts, and also through the pure food and drug laws of many states.

THE PHARMACOPEIA.

The importance and value of the Pharmacopeia to the medical profession is best illustrated by a definition of its functions, viz.: "An authoritative compilation establishing standards for the identity, purity, strength and quality, and giving directions for the preservation, purification, valuation, preparation and compounding of drugs, chemicals and medicinal substances. Its object, in brief, is to insure uniformity of drugs, chemicals and medicinal substances. That this is the highest therapeutic desideratum is indisputable. Yet to many prescribers the Pharmacopeia is a closed book. The present United States Pharmacopeia contains nearly one thousand articles, but statistics have shown that the average prescriber employs only one-fourth of these official articles, i. e., of 100 articles prescribed, only about twenty-five would be official ones. That the Pharmacopeia will never comprise all substances used in medicine is self-evident. Yet in the degree that medicinal substances and their preparations respond to the principles governing the introduction of articles into the Pharmacopeia—comply with the general requirements for official medicines—in the same degree will their identity be established, uniformity in prescribing be secured, and their true position in medical literature for the advancement of science be attained.

THE NOMENCLATURE.

The nomenclature of a science—its language—must be constructed on a scientific basis, and be kept pure and undefiled. It should be systematic, yet as euphonic as possible, in order that its terms be not too unwieldly, simple yet descriptive, and practicable of facile application. In all branches of medicine, save that of pharmacy, this rule is strictly adhered to; a few exceptions associating the names of some earlier medical authorities with some important discoveries in anatomy and physiology.

Formerly, in designating an especial make of a medicinal article, or pharmaceutical preparation, it was the custom to affix the name of the maker, and the great chemical and pharmaceutical manufacturing establishments of the United States were largely built up on this basis; soliciting preference for their products because of superior facilities and improved processes of manufactures, one well-known firm even distinctly repudiating any other claim for superiority of products than the exceptional facilities for securing crude material and the technical skill acquired by long experience in catering to the wants of the medical profession. The only protection thereby created was for the "brand" afforded by the firm name or symbolic trade-mark, and those products were therefore free from all secrecy and monopolistic features.

Some of the historic firms observed ethics, zealously guarded the interests of the medical profession and often contributed the results of their wide experience to the pharmaceutical literature. Many official articles and preparations have been perfected by the labors and researches of a venerable manufacturer, formerly a leading member of the American Medical Association, and also several of the leading houses to-day contribute, through their staff of experts, not only to pharmacy and chemistry, but also to biology and pharmacology, through their often unusual opportunities and superior laboratory equipment. While these houses are engaged in commercial pursuits, they are closely related to medicine and pharmacy and should be entitled to some consideration. As a rule their products are supplied only to the "legitimate trade," and are not advertised to the laity, nor is their use for self-medication in any manner encouraged.

PROPRIETARY PHARMACEUTICALS.

The advent of the "proprietary pharmaceuticals," so-called in distinction from the domestic or "patent" proprietary medicines, is of more recent origin. These are mostly designated by fancy or arbitrarily-selected names, sometimes more or less descriptive of their derivation, therapeutic application or manufacture. They usually have a purported formula, or rather the ingredients are enumerated, but not a few are of secret composition. Eventually they are exploited to the laity, which is rendered comparatively easy owing to the simple euphonic name of the article, often also suggestive of its indicated use. The physician has often been used as a cat's paw for introducing them to the laity. One popular "emulsion," advertised in the newspapers and all available exposed places generally throughout the country, as a "cure for consumption," carries testimonials from two of the most noted medical teachers in the West during their lifetime.

The manufacture of these "proprietary pharmaceuticals—each a purely commercial venture—is usually engaged in by somebody who has been connected with a wholesale drug house, some unsuccessful "doctor," and occasionally a druggist, but rarely a pharmacist or chemist. The history of one of the most "successful" earlier ones of these, whose "proprietor" is reputed to have left an estate, a few years ago, of $800,000 as a result of his venture, will illustrate the *modus operandi*. Engaged in the sundry department of a wholesale drug house, the thought occurred to the prospective proprietor that an antiseptic solution, non-irritant and fairly inodorous, would be "a great hit," and a list of such antiseptic agents was secured from an accommodating medical man, who also suggested the name for the preparation, in honor of a then celebrated Sir, now Lord. The idea took like wild-fire. Medical men and surgeons everywhere used the preparation and recommended it. To-day it is *found in dry goods stores, groceries, and, in fact, nearly everywhere.* There is one thing in its favor, as might be said of most of these external antiseptic preparations, it does no harm even in the hands of the laity.

In many of these preparations there is no secrecy as to composition, in fact, claim for medical preference is usually based on the attractiveness of the preparation, as indicated more or less completely or intelligibly by the formula. But there is usually a "kink" in the formula or method of preparation, which prevents its successful imitation, and enables the proprietor to distinguish the genuine article "from spurious substitutes made by unscrupulous druggists." This feature of detecting "base imitations and counterfeits" has indeed become an important branch of this proprietary medicine business, some of these concerns maintaining a special department for the detection and punishment of offenders. One of the largest detective bureaus in the country makes a special feature of soliciting the patronage of these manufacturers, offering its services and naively suggesting that few methods are so effective in exploiting an article and stimulating a languishing demand as a vigorous campaign against real or imaginary "counterfeiters" of their goods.

POLYPHARMACY.

While the tendency in scientific therapeutics is to simple remedies, still combinations and mixtures are extensively used and will probably always be prescribed. Some of the most frequently employed, and by many considered the most valuable, remedies originated, as have the present day proprietary medicines, through prescriptions of more or less prominent medical men, but, unlike these, the complete formulas and methods of preparation were published for the benefit of medical and pharmaceutical science. Many of them were recognized in various pharmacopeias, under descriptive titles, the name of the originator surviving only as a synonym. It may be interesting to note some of the best known of these now official preparations in the United Staes Pharmacopeia: Fowler's solution—*liquor potassii arsenitis; Donovan's solution—liquor arsenii et* hydrargyri iodidi; Huxham's tincture—tr. cinchonæ comp.;

Turlington's balsam—tr. benzoini comp.; Basham's mixture—liquor ferri et ammonii acetatis; Griffith's mixture—mistura ferri comp.; Blaud's pill—pilula ferri carbonatis; Tulley's powder—pulvis morphinæ comp.; Dover's powder—pulvis ipecac et opii; etc. Had this class of preparations been kept secret and their names monopolized through copyright or trademark, they would have been excluded from medical literature and the profession would have been deprived of many valuable remedies.

The use of ready-made compound preparations or mixtures, aside from therapeutic considerations, has some advantages which account for their existence: 1. In their great convenience for the busy practitioner, saving time and labor involved in formulating a prescription. 2. They seem to have become an almost necessary recourse to many young and inexperienced prescribers, who are either incompetent or too timid to venture into formulating an original prescription for fear of incompatibilities, overdosage and for other reasons. On the other hand, the "habit" has many disadvantages, realized by every educated and experienced physician, not necessary to here enumerate.

THE REAL ADVANCE AGENT.

There is one phase, however, which has not been pointed out before, viz., that the armamentaria of too many hospitals, clinics and dispensaries consist largely of this class of preparations, charitably donated by the manufacturer. Here they are used to the exclusion of other remedies, with the result that the average medical student's ideas and experience concerning medicines are largely confined to the proprietary articles, which his "professors" used in their demonstrations. He acquires but little knowledge of pharmacy during the course and, when he begins to practice, he prescribes proprietary remedies and becomes the "advance agent" of the proprietor.

Aside from the objections to the use of proprietary pharmaceuticals, through lack of satisfactory knowledge of their composition and that from the habit of their prescription, the art of prescribing and the medical literature are endangered and self-prescription by the laity is encouraged, there is above all the serious objection that from their character their identity, strength and purity can rarely be determined by chemical or physical tests, and that their therapeutic value must consequently be estimated through their therapeutic or physiologic effects, which must necessarily, from such complicated mixtures, be largely empirical. When to this is added the ever-present danger of altering or changing the preparation by the manufacturer, through the best of motives, which may, however, unfavorably affect its therapeutic use or value, the status of these preparations becomes exceedingly questionable, from the fact that they are regarded as the exclusive property of the manufacturer "to own and control and to do with whatever he pleases." It is therefore not only desirable, but a medical necessity, that a systematic attempt should be made to evolve a plan whereby the legitimate remedies of this class may be made to respond to the ethics of medicine and the requirements of scientific pharmacy.

Therapeutics.

Habitual Constipation of Spasmodic Origin.

Most cases of habitual constipation proceed from atony of the bowels, but there is a variety due to spasmodic action, and the treatment of the former is directly injurious in the latter, which Romme describes in the *Presse Med.*, March 31, as characterized by hard, small-calibered feces, the subject a neuropath. The constipation is ordinarily of recent date, and is attributed to some particular cause, such as an indiscretion in diet. The abdomen is not distended, the intestines are not painful on pressure, but the abdominal wall is contracted. Hydrotherapy, copious lavages of the intestines, and modification of the diet usually cure the constipation in a few weeks. Purgatives are injurious; sedatives are indicated. One or two pills of belladonna, .01 gm. each, taken before breakfast, or tincture of opium, five drops a day.

Treatment of Malarial Fever.

The mere administration of quinin pills or capsules in malaria is not always sufficient to cure the disease. The following prescriptions have been recommended by eminent clinicians:

℞. Quininæ sulphatis .... gr. x
Capsici pulv .... gr. iii
Opii pulv .... gr. i
M. Sig. One dose. —*Alonzo Clark.*

AFTER PAROXYSMS HAVE BEEN ARRESTED.

℞. Tinct. iodini
Tinct. ferri chloridi
Tinct. sanguinariæ—equal parts.
M. Sig. Twelve to fifteen drops after each meal.
—*Carpenter.*

IN OBSTINATE FORMS.

℞. Ferri ferrocyanidi
Pulv. guaiaci resinæ āā .... ʒi
M. et. ft. Chart No. xii. Sig. One powder thrice daily.
—*Ellis.*

FOR RECTAL INJECTION.

℞. Quininæ bisulphatis .... gr. xv
Acidi sulphurici diluti q. s.
Aquæ q. s. ad .... ℥ii
M. Sig. Inject.

℞. Quininæ sulphatis .... gr. xlv
Ferri et potassii tartratis .... gr. cv
Aquæ destillatæ .... ℥iii
Liq. potassii arsenitis .... m. xxiv
M. Sig. ʒi from one to three times daily.

IN GRAVER FORMS.

℞. Quininæ hydrochloratis .... gr. xv
Sodii chloridi .... gr. iss
Aquæ destillatæ .... ʒiiss
M. Sig. Use one-half the above quantity as an intravenous injection. —*Barcelli.*

℞. Quininæ sulphatis .... gr. x
Acidi sulphurici diluti .... m. x
Syr. aurantii .... ʒii
Aquæ ad. .... ʒi
M. This amount three times a day. —*Fothergill.*

℞. Hydrarg. chloridi mitis
Pulv. ipecacuanhæ et opii āā .... gr. iv
Quininæ sulphatis .... gr. xvi
M. For four pills. Two to be given at bedtime and two the following morning. —*Claiborne.*

FOR MALARIAL AND ALSO URIC-ACID CONDITIONS.

℞. Quininæ sulphatis
Hydrarg. cum cretæ āā .... gr. xvi
M. et. ft. capsulas viii. Sig. Two capsules each night at bedtime, followed by two drams of Epsom salts in a glass of hot water before breakfast. —*H. P. Loomis.*

IN CHILDREN.

℞. *Tinct. eucalypti*
Alcohol āā .... ʒii
Quininæ hydrochloratis .... ʒss
Quinoidinæ .... ℈i
Acidi chlorici q. s. solution
M. Sig. From 20 to 40 drops five times a day.
—*Zuckermann.*

℞. Quininæ sulphatis .... ʒi
Tinct. ferri chloridi .... ʒv
Liq. acidi arseniosi .... ʒiss
Potassii chloratis .... ʒi
Syr. zingiberis q. s. ad .... ℥iv
M. Sig. Teaspoonful in water thrice daily, after meals.
—*Guice.*

SIMPLE INTERMITTENT IN ADULTS.

℞. Massæ hydrargyri .... gr. x
Ext. hyoscyami .... gr. v
Quininæ sulphatis .... gr. xx
M. ft. pil. No. x. Sig. One every hour during the afternoon, to be followed by salines in the morning.
—*E. J. Kempf.*

IN MALARIAL CACHEXIA.

In addition to eight grains of quinin in capsule on an empty stomach morning and evening:

℞.	Liq. arsenici chloridi	gtt. v
	Tinct. ferri chloridi	gtt. xx
	Elixir	
	Aquæ āā q. s. ad	ʒi

M. To be taken three times a day after meals.

—*Da Costa.*

TO CHECK RECURRENT PAROXYSMS.

℞.	Pil. ferri carbonatis	ʒi
	Acidi arseniosi	gr. i
	Quininæ sulphatis	gr. xl

M. ft. cap. No. xx. Sig. One capsule three times a day.

℞.	Quininæ sulphatis	ʒss
	Liq. potassii arsenitis	ʒiss
	Tinct. ferri chloridi	℥ss
	Syrupi zingiberis	℥iss
	Aquæ destil q. s. ad	℥iv

M. Sig. Dessertspoonful after meals.

Bedford Brown says: "In giving quinin, give enough. Sixty grains daily, or ten every four hours, will arrest an attack in seventy-two hours or less. Thirty grains daily in three-grain doses will prolong it to five or six days. Ten grains every eight hours will have more effect on the germs than two grains every hour, and will not make the patient so nervous. In swamp regions the dose for a child between the ages of one day and 8 years is five grains."

Ear buzzing may be controlled to a large extent by simultaneous use of small doses of atropin. —*Aubert.*

In malarial hematuria, prevent by giving quinin in requisite amount at the proper time.

When the kidneys are not acting well it is very hazardous not to administer quinin. —*Sears.*

When improvement has not occurred under quinin and arsenic, methylene blue, 0.25 cg., three times daily.

To reduce temperature, external applications of creosote and guaicol (m. xv.).

When quinin can not be given by the mouth to children the following may be used:

℞.	Quininæ sulphatis	gr. xv
	Acidi hydrochlorici sufficient to make soluble.	
	Aquæ dest.	ʒi

M. Sig. Inject twenty minims into the cellular tissue of back or forearm, followed by gentle rubbing to aid in diffusion. —*Benson.*

Daland says: "In gastric catarrh or the gastrohepatic symptoms of lithemia, precede the specific treatment of malaria by a short course of broken doses of calomel, and it may be necessary to give quinin by suppository or subcutaneously.

TO CLEANSE THE CHYLOPOIETIC SYSTEM.

℞.	Podophyllin	gr. i
	Leptandrin	gr. ii
	Iridin	gr. i
	Ext. nucis vom	gr. i
	Capsici	gr. i

M. ft. pil. xl. Sig. One or two three times a day for children. —*Kempf.*

Facial Neuralgia.

The following mixture often gives relief:

℞.	Butylchloral hydratis	
	Alcoholi, āā	ʒiiss
	Glycerini	ʒv
	Aquæ	ʒxxx

M. Sig. One to two teaspoonfuls daily.

—*Progrès Médical.*

Cacodylic Medication.

A. Frassi has been testing cacodylic medication, which has been recommended in high terms in France during the past year. He corroborates its efficacy as a peculiarly advantageous form of administering arsenic, especially in respect to the hemoglobinogenesis and cytogenesis induced, although it is less effective in promoting hemoglobinogenesis than preparations of iron. It seems to have a remarkable and more or less specific action in surgical tubercular affections: There was always an increase of weight and of the amount of urea eliminated in every case treated. Seven observations are reported in detail in his communication to the *Gazzetta degli Ospedale*, March 14.

Diabetes Mellitus.

℞.	Strychninæ sulphatis	gr. 1/200
	Sodii arseniatis	gr. 1/50
	Codeinæ	gr. 1/6
	Quininæ valerianatis	gr. i
	Ext. valerianæ, q. s., ft. pil. No. i	

M. Sig. From one to six of these pills may be given each day.

—*Legendre.*

TO LESSEN THE QUANTITY OF SUGAR.

℞.	Antipyrin	ʒiii
	Glycerini	℥i
	Aquæ	℥viii

M. Sig. Teaspoonful every three hours.

—*Josias.*

TO LESSEN THE THIRST.

℞.	Infus. cascarillæ	Oi

Sig. A wineglassful three or four times daily.

—*Da Costa.*

Functional Albuminuria.

℞.	Acidi gallici	ʒi to ʒii
	Acidi sulphurici diluti	ʒss
	Tinct. lupulini	ʒi
	Infusi lupulini, q. s., ad	℥vi

M. Sig. Tablespoonful three times a day.

—*Aitken.*

FOR SUBCUTANEOUS INJECTION.

The following is Mennella's formula for a subcutaneous injection:

℞.	Iodini	gr. iii	2
	Potassii iodidi, q. s.		
	Aquæ destil., q. s., ad	gr. iii	2

M. Sig. From ¼ to ½ dram (1 to 2 c.c.) to be injected in the course of a day.

MOUSNIER'S FORMULA.

℞.	Iodini	ʒi	4
	Tannin	gr. xv	1
	Eucalyptol	ʒx	40
	Olei sterilizat, q. s., ad	ʒxxv	100

M. Sig. Inject from ⅛ to ¼ dram (.5 to 1 c.c.).

Evaporation of Peroxid of Hydrogen in Whooping-cough.

The antiseptic and oxidating power of oxygenated water suggested its application to the treatment of whooping-cough, and Baroux, after thoroughly testing on himself the harmlessness of the method, now reports that it will "certainly jugulate every case of whooping-cough within a week." His method is to moisten a couple of old cotton cloths about a yard square, with 80 grams of the peroxid and suspend on a rope across the center of the room, repeating every four hours. This amount corresponds to a closed room of about sixty to seventy-five cubic meters. Two rooms should be used, one for the day and another for the night. The peroxid should be about 12 volumes, and about four liters are required. He gives the following harmless sedative at once:

℞.	Tinct. droseræ	ʒss	2
	Tinct. belladonna	gr. xlv	3
	Tinct. aconiti	ʒi	4

M. Sig. Ninety drops during the day for an adult; dose diminishing with age.

Treatment of Thomson's Disease.

V. Bechtereff attributes this affection to disturbed organic interchanges and, the *Sem. Méd.* states, has been very successful in treating it with gymnastics, electric massage, tepid baths, potassium iodid and antipyrin, to combat the toxic substances produced in consequence of the muscular lesions.

Furunculosis.

To abort the furuncular process:

℞.	Liq. ammoniæ	ʒi+m. xx
	Aquæ	℥ii

M. Sig. Teaspoonful in water three times a day.

—*Randolph.*

Medicolegal.

Regulation of City Scavenger Work.—The Court of Appeals of Colorado holds, in City of Ouray vs. Corson, that, by virtue of a statute conferring on municipal corporations the power to enact such ordinances as may be deemed necessary for the safety, health, comfort and convenience of the public, and the power to make all regulations which may be necessary or expedient for the promotion of health or the suppression of disease, a city has ample power to create the office of city scavenger, and prescribe the terms on which other persons may do scavenger work. Nor does it consider that it is a valid objection to an ordinance doing this that it does not embrace any specific regulations concerning the manner in which the work shall be done. Whatever may be needful in this regard, it holds, may be supplied by other and succeeding ordinances, as well as that there may be so made, any modifications needed to meet the requirements of changed conditions.

Where the Coroner is a Practicing Physician.—"Can the board of county commissioners legally enter into a contract with, or employ, the coroner of the county, who is a practicing physician, for a period of one year, at reasonable compensation, to furnish medicine and medical attendance for the poor and paupers of the county?" This question was reserved for the Supreme Court of Wyoming, by the judge of the district court, in Baker vs. Board of Commissioners of Crook County. Toward answering it, the supreme court first of all holds that the office of coroner, where the pay is $5 per day and 10 cents a mile mileage for holding inquests, and the same fees as may be allowed the sheriff when he performs the duties of sheriff, is very clearly a "lucrative" one, within a statute prohibiting any person holding a lucrative office from being interested in contracts for the construction of any public building, or work of any kind, namely, of the character of what are usually designated "public works," or from bargaining for or receiving any percentage, or "rake off," as the court says it is sometimes called. But even so, it does not consider the contract in question within the inhibition of that statute. Nor does it see any reason for declaring such a contract to be against public policy. It intimates that if the coroner of a county, who happened to be a physician, should employ himself to make a post-mortem examination, such contract might be obnoxious as opening the door to fraud, and against public policy. At the same time, it points out that the objection that the coroner would probably call on himself to hold the post-mortem examinations for the fees allowed, if he were also county physician, is met by the statute of that state, which contains a proviso that the sections providing for the payment of such fees shall not apply in the case of any physician regularly employed by the county as such. 'For these reasons, and because the officer in the case presented represents only himself as an individual, and, with reference to the subject-matter of the contract, does not assume to represent, and has no power of authority to represent the county, the court answers the question reserved in the affirmative, holding that such a contract is not subject to any legal objection raised.

"Cancer Specialist" Not Competent Witness.—A regular, practicing physician brought an action to recover $500 for professional services rendered in the treatment and cure of two cancers—one on the face and one on the hand of the party he sued. He obtained a judgment for $350. The testimony which he introduced to prove the value of his services was that of regular, practicing physicians. There was also expert testimony introduced on behalf of the party sued. But the only error complained of by the latter, on appeal, was the striking out of a deposition of a so-called "cancer specialist," on objection to its admission in evidence to show the value of the services rendered. From the deposition it appeared that the witness had testified that he was a cancer specialist, treating nothing but cancers; that he had been so engaged for the preceding five years, but had also followed farming during about four years of that time; that he was not a physician nor surgeon, and had never attended any medical school or college, nor read any course in medicine or surgery; that what he knew concerning the treatment of cancers he had learned from another cancer specialist, whose formulas and recipes he followed, not venturing any treatment of his own, independently of such formulas and recipes. Under such circumstances, the Court of Appeals of Kansas, southern department, holds, appeal of Griffith vs. McCandless, there was no error in excluding the deposition on the ground that it itself showed the witness to be incompetent to testify as an expert. Nor does it consider that the right to make this objection to the deposition at the trial of the case, when it was offered in evidence, was waived by the plaintiff appearing at the taking of the deposition, and not then objecting to the testimony of the witness on the ground of his incompetency. On the competency of the witness, it declares that little need be said. Indeed, it thinks it enough to say that the proper testimony concerning the value of the plaintiff's services was that of men of science—physicians of training, knowledge, and experience. The witness testified that he was not a physician, and it did not appear that his preceptor was himself a physician. His opinion was based on reading or study. Hence, the deposition was properly excluded; and the judgment for the plaintiff is affirmed.

State Quarantine vs. Interstate Commerce.—In the bill of complaint filed with the Supreme Court of the United States by the State of Louisiana vs. the State of Texas, it was charged that the health officer of the State of Texas, by rules and regulations framed and put in force by him under the laws of Texas in respect to quarantine, had placed an embargo in fact on all interstate commerce between the State of Louisiana and the State of Texas, and that the Governor of Texas had permitted these rules and regulations to stand and be enforced, although he had power to modify or change them. No complaint was made that the Texas quarantine laws were invalid. Nor was the bill rested merely on the ground of the imposition of an embargo without regard to motive. What it particularly charged was that the rules and regulations established by the authorities of Texas under its statutes were more stringent than called for by the particular exigency—went beyond what was necessary to protect the people of the state against the introduction of infectious diseases, yellow fever in particular, and were purposely framed with the view to benefit the State of Texas, and the City of Galveston in particular, at the expense of the State of Louisiana, and especially of the city of New Orleans. This bill the supreme court has dismissed, on the ground that it did not set up facts which showed that the State of Texas had so authorized or confirmed the alleged action of her health officer as to make it her own, or from which it necessarily followed that the two states were in controversy, within the meaning of the Constitution, so as to give the court jurisdiction. Moreover, it declares itself unable to hold that the bill could be maintained as presenting a case of controversy "between a state and citizens of another state." Nor can it, it says, accept the suggestion that the bill could be maintained as against the health officer alone on the theory that his conduct was in violation or in excess of a valid law of the state, as the remedy for that would clearly lie with the state authorities, and no refusal to fulfill their duty in that regard was set up. In truth, it adds, it is difficult to see how on this record there could be a controversy between the State of Louisiana and the individual defendants without involving a controversy between the states, and such a controversy, it maintains, as above stated, was not presented. In the course of its remarks, the court says that, while it is true that the power vested in Congress to regulate commerce among the states is a power complete in itself, acknowledging no limitations other than those prescribed in the Constitution, and that where the action of the states in the exercise of their reserved powers comes into collision with it, the latter must give way, yet it is also true that quarantine laws belong to that class of legislation which is valid until displaced by Congress, and that such legislation has been expressly recognized by the laws of the United States almost from the beginning of the government.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical News (N. Y.), April 7.

1.—*Cancer of Breast. Robert Abbe.
2.—*Malignancy. Arthur L. Fuller.
3.— Causes, Diagnosis and Treatment of Cystitis. Ramon Guitéras.
4.— Hypnotism. F. X. Dercum.
5.— Case of Spontaneous Rupture of Uterus. Bradford Woodbridge.

Boston Medical and Surgical Journal, April 5.

6.—*Distortion of the Spine; with Report of Two Cases of Diplegia Brachialis due to this Cause. J. W. Courtney.
7.—*Conservative Operative Treatment of Fibroids; Report of Three Cases. W. L. Burrage.
8.—*Two Cases Illustrating Conservative Operations for Uterine Fibroids. R. A. Kingman.
9.— Peculiar Case of Adenocarcinoma of Body of Uterus. Agnes C. Vietor.
10.— Case of Extrauterine Pregnancy, with Operation. Frederick W. Johnson.
11 — Empyema of Frontal Sinus. John D. Paige.

New York Medical Journal, April 7.

12.—*Puerperal Septicemia: Especially its Bacteriology and Treatment by Serum. Louis A. Hering.
13.—*Chronic Carbon Monoxid Poisoning, with Report of an Illustrative Case. Thomas J. Yarrow, Jr.
14.— Gunshot Wounds. Report of Gunshot Cases in Spanish-American War, and Deductions Therefrom. (*Continued.*) W. C. Borden.
15.—*Some Critical and Desultory Remarks on Recent Laryngologic and Rhinologic Literature. (*Continued.*) Jonathan Wright.
16.— Creosote. Some Clinical Observations on Its Use in Various Conditions. Frederick Cleveland Test.
17.—*Treatment of Gouty Deposits. E. L'H. McGinnis.
18.—*Critical Study of Justus Blood Test for Syphilis. David H. Jones.

Medical Record (N. Y.), April 7.

19.—*Traumatic Hemorrhages into Spinal Cord. Pearce Bailey.
20—*Some Remarks on Treatment of Syphilis, Charles J. Proben.
21.—*Treatment of *Rheumatism at New York Hospital.* Hughes Dayton.
22.—*Summary of Cases of Carcinoma and Sarcoma Treated by Writer's Method of Cataphoric Sterilization, to Jan. 15, 1900. G. Betton Massey.

Cincinnati Lancet-Clinic, April 7.

23.—*Surgical Uses of Suprarenal Extract. J. W. Murphy.
24.—*Pelvic Tumors as Cause of Sciatica. Elliott B Palmer.

Medical Review (St. Louis, Mo.), April 7.

25.—*Personal Cleanliness and a Good Complexion. Fred J. Leviseur.
26.— Report of Case of Hodgkin's Disease. A. Derivaux.

Philadelphia Medical Journal, April 7.

27.—*Histology and Microchemic Reactions of Some Cells to Anilin Dyes: Identity of the Plasma-cell and Osteoblast: Fibrous Tissue a Secretion of the Plasma-cells: Mast-cell Elaborates Mucin of Connective Tissues. H. F. Harris.
28.—*Parasites of Estivoautumnal (remittent) Malarial Fever. Charles F. Craig.
29.—*Soldier in the Tropics. His Food, Alcohol and Acclimatization. Charles E. Woodruff.
30.—*Hospitals of Porto Principe, Cuba. S. T. Armstrong.
31.— Bubonic Plague. H. F. Harris and W. F. Arnold.
32.—*Share of "The White Man's Burden" that has fallen to the Medical Departments of the Public Services in Puerto Rico. John Van Rensselaer Hoff.
33.—*Methods of Control of *Leprosy in Hawaiian Islands, with Description* of Leper Settlement on Molokai. R. S. Woodson.
34.—*Sanitary Conditions of the Far East as it Affects the United States. Stuart Eldridge.
35.—*Notes on Philippines. Samuel O. L. Potter.
36.— Cuban Malaria in North Atlantic Squadron of United States Navy in 1898. W. F. Arnold.
37.—*History and Etiology of Bubonic Plague. George M. Sternberg.
38.—*Intestinal Fever: Cause and Prevention. G. W. Richardson.
39.—*Amebic Dysentery. I. B. Diamond.

American Practitioner and News (Louisville, Ky.), February 1.

40.— International Congress for Tuberculosis. T. B. Greenley.
41.— Treat Patient, not Disease. R. R. Sullivan.
42.— Report *of* Case of Extrauterine Pregnancy which Became Intraperitoneal. J. Whitney Hall.

Columbus Medical Journal, March.

43.—*Early Diagnosis of Idiocy, with Case. J. Park West.
44.—*Inversion of Uncut Appendix. J. F. Baldwin.
45.— Appendicitis. J. A. McClure.
46.— Placenta Previa. Hugh Hendrixson.

Journal of Boston Society of Medical Sciences, February 20.

47 —*Relation between Physique and Mental Work. Henry G. Beyer.
48.—*On a Hitherto Unrecognized Form of Blood Circulation without Capillaries in Organs of Vertebrates. Charles S. Minot.
49.—*Relation of *Cephalic Index to Height,* Weight, Strength and Mental Ability. D A. Sargent.
50.—*Branching Forms of Tubercle Bacillus in Sputum. W. H. Smith.
51.— Development of Microscope. Harold C. Ernst.

University Medical Magazine (Philadelphia), March.

52.—*Use of Antitoxin in Diphtheria, with Special Reference to Small and Frequently Repeated Doses. John H. Musser.
53.—*Absorption and Metabolism in Exclusive Rectal Alimentation. D. L. Edsall.

Annals of Ophthalmology (St. Louis, Mo.), January.

54.— Destructive Ulcers of Eyelids: Cure. Kenneth Scott.
55.—*Hemianopsia (Half-Blindness). Its Forms, Anatomy, Etiology, Diagnosis, Prognosis and Therapy. (*Continued.*) Herman Schmidt-Rimpler.
56.—*Clinical Notes on Sympathetic Ophthalmia. H. Gifford.
57.—*Value of Cycloplegia in Optometric Examination. C. M. Culver.
58.— Retrobulbar Abscess Due to *Empyema of Maxillary Antrum* and Ethmoidal Sinus Resulting from Dental Caries: Operation: Recovery. J. Guttmann.
59.— Some Wounds to Eye and Its Adjacent Parts in Cuban War of Independence. J. Santos Fernandez.
60.— Diabetic Cataract, with Report of Case. Edward B. Heckel.
61.— New Ophthalmoscope. Charles H. May.

Brooklyn Medical Journal, April.

62.— *Practical Reform of One Hospital Evil.* Arthur C. Jacobson.
63.—*Head Injuries. Silas C. Blaisdell.
64.— Treatment of Acute Anterior Urethritis. William E. Butler.

Annals of Gynecology and Pediatry (Boston), March.

65.—*Gall-Stones: Some Pathologic and Clinical Phases. A. H. Cordier.
66.—*Correlation of Sexual Function with Insanity and Crime. H. Macnaughton-Jones.
67.— Case of Porro's Operation. Milo B. Ward.
68.—*Some Remarks on Operative Treatment of Uterine Fibroids. W. J. Gow.

Chicago Medical Recorder, March.

69.—*Peculiar Mixed Tumors of Kidney. Maxmilian Herzog.
70.— Pathology of Renal Neoplasms. Daniel N. Eisendrath.
71.— Symptomatology, Diagnosis and Treatment of Neoplasms of Kidney. L. L. McArthur.
72.—*Effect of Diet in Nephritis. N. S. Davis, Jr.
73.— Motor Insufficiency of Stomach. Fenton B. Turck.
74.—*Demonstration of Three Cases of Radical Mastoid Operation. J. Holinger.
75.— Clinical Cases. D. N. Eisendrath.
76.—*Surgical Cases. A. E. Halstead.
77.—*Case of Nerve Suture a Year after Injury. E. J. Senn.
78.—*Inflating Rectal Specula with Detachable Tubes. J. Rawson Pennington.

Colorado Medical Journal (Denver), March.

79.—*Problems in Rural Sanitation. J. Tracy Melvin.
80.— Practical Methods of Detecting the More Common Pathogenic Bacteria. Wm. C. Mitchell.
81.—*Preliminary Remarks to Discussion of Tuberculosis. C. Denison.
82.— *Etiology of Acute Diffuse Pneumonia.* Wm. N. Beggs.
83.—*Angiotribe in Operations for Varicocele. Leonard Freeman.
84.— Operation for Carcinoma of Penis and of Anus. Edmund J. A. Rogers.

Cleveland Journal of Medicine, March.

85.—*Management of Incomplete Abortion. J. H. Belt.
86.—*Foreign Bodies in Maxillary Sinuses, with Report of Case. R. J. Wenner.
87.—*Adherent Pericardium, with Report of Case. H. W. Rogers.
88.— Puerperal Pyemia: Report of Case. I. W. Bard.
89.— Effect of Public School Life on Eyes of Children. Edward P. Morrow.
90.—*Amputation of Leg for Diabetic Gangrene, without General Anesthesia, by Cocainizing Spinal Cord. Wm. E. Lower.

Pennsylvania Medical Journal (Pittsburg), March.

91.—*Therapeutics of Opium. E. V. Swing.
92.— New Proctology. Wm. M. Beach.

St. Louis Courier of Medicine, March.

93.—*Ectopic Gestation. Egbert H. Grandin.
94.— *Case of Secondary Post-Partum Hemorrhage.* L. E. Newman.
95.— Rare and Interesting Surgical Cases. C. P. Thomas.
96.— Report of Case of Placenta Previa. Frank Hinchey
97.— Relative Value of Antisepsis and Improvement in Technique, as Regards Actual Results in Operative Gynecology. (*Concluded.*) L. Gustave Richelot.
98.— Philosophy of Living. Isadore Dyer.

Canadian Journal of Medicine and Surgery (Toronto), April.

99.— *On the Rôle of Primary and Secondary Osteoplastic Surgery in* Treatment of Complicated or Compound Fractures of Extremities. (*Concluded.*) Thomas H. Manley.
100.— Complications of Suppuration of Middle Ear. J. H. MacCallum.
101.— Case of Jacksonian Epilepsy in Which the Paroxysms were Controlled by Chloretone. W. T. Parry.

American X-Ray Journal (St. Louis, Mo.), March.

102.— Excitation of Crooke's Tube by Static Machine. Magnetic Discharges. John T. Pitkin.
103.— Exhibition of Skiagraphs: Report of Cases. J. T. Dunn.

Alabama Medical and Surgical Age (Birmingham), March.

104.—*Wounds of Liver and Biliary Tract. W. E. B. Davis.
105.— Treatment of More Common Diseases of Rectum. Geo. S. Brown.
106.— Reflex Nervous Disorders. B. L. Wyman.
107.— Enuresis and Its Treatment. Thos. Bassett Keyes.

Medical Sentinel (Portland, Ore.), March.

108.— Conservatism in Pelvo-Abdominal Surgery. L. P. McCalla.
109.— Placenta Previa. Report of Case. Owens O'Dair.

Richmond (Va.) Journal of Practice, March.

110.— What Most Contributes to Success of Young Physician. I. S. Stone.
111.—*Four Cases of Penetrating Wounds of Abdomen with Visceral Lesions, and Wounds of Entrance above the Umbilicus. Hugh M. Taylor.
112.— Tubercular Arthritis of Knee, With Remarks. J. W. Henson.

Southern Medical Journal (LaGrange, N. C.), March.

113.—*Four Cases of Penetrating Wounds of Abdomen with Visceral Lesions, Wounds of Entrance Above the Umbilicus. Hugh M. Taylor.

114.— Delayed Menstruation in Girl, due to Chlorotic Conditions. J. W. P. Smithwick.

115.— Facts in Regard to Alcohol. W. P. Howle.

116.— Chronic Ulcers; Their Treatment, with Report of Cases. J. W. P. Smithwick.

AMERICAN.

1. **Cancer of Breast.**—The fact that cancer is more generally recognized as an originally localized disease is first alluded to, and as evidence, Abbe mentions the complete immunity furnished by the excision of the diseased regions where lymphatic circulation is not active enough, as in the lips and skin. In other localities, however, such as the breast, where the absorbent channels are free, the spread of infection is rapid, and he points out the causes as shown by the anatomy of lymphatics in the pectoral region. It is this progress along anatomic lines that has given the recent great impetus to surgery. To-day the axilla is regarded as primarily contaminated, almost as soon as any tumor can be recognized in the breast. Excision of the axillary lymphatics is, therefore, good surgery, and most operators now avoid leaving any possible contamination, make wide incisions, extensive extirpation of the skin without regard to apposition of the skin-edges, trusting to grafts and healing by granulation to fill the wound. Too much emphasis can not be laid on possible operative infection, and the author suggests that there is a certain risk in too much scrubbing in preparing the patient for the operation. He would advise the least possible friction and handling in preliminaries. In estimating the value of recent work we must rely on statistics and what he calls the personal impression of surgeons. He refers to the statistics of Halsted and Stiles, and he gives his own, in which about 25 per cent. have reached the three-year limit of freedom from the disease, and nearly as many more have approached it. As regards the "personal impression," he says that the stage of pessimism of ten or fifteen years ago is past and the operators are now hopeful in this class of cases. Even where perfect cure is not obtained much relief is secured for the time at least. Recurrence after operation need not discourage the physician; if speedily and thoroughly attended to there is still a strong probability of ultimate good results.

2. **Malignancy.**—Malignancy apparently consists in a group of features, such as rapidity of growth, tendency to recurrence after removal, glandular infection and general dissemination, and a condition of progressive ill-health ending in death. Fuller defines it as an inherent tendency to impairment of health and destruction of life by some special pathologic activity. The author of the paper here works out his suggestion largely by the resemblance to certain other conditions, myxedema and Addison's disease, each of which depends on the absence or destruction of certain glands, whose functions are intimately connected with the health of the organism. The cachexia of malignant disease is, he thinks, similarly produced, and he suggests the possibility of the connection of the absence of the thymus gland with this condition. This gland, as we know, is active in fetal life and infancy, and he thinks its function is to extract from the blood some products of embryonic cell metabolism which are injurious to the system. It is therefore suggested that it is possible to administer some preparation of thymus, preferably an extract by intravenous injection, which may be of use in treatment of these malignant tumors whose cells are embryonic in character. He sums up as follows: Malignancy is a term which implies some special form of pathologic activity, not present in other conditions. Since the cachexia alone seems to depend on forms of cell energy which are absent in other conditions, it alone must be considered the essential feature of malignancy. The relation of cachexia to the embryonic character of the tumor cells is such as to suggest that it is due to the retention of products of embryonic cell metabolism in the system, constituting a form of toxemia; therefore, the special form of activity which constitutes malignancy is probably the formation and excretion into the system of such products. This suggestion is borne out by the fact that the presence of embryonic cells pouring their metabolic products into the system, in the absence of the thymus gland, constitutes a pathologic condition similar to those present in myxedema and Addison's disease, diseases in which the loss of health closely resembles the cachexia of malignant disease. Therefore, the administration of thymus in malignant disease might prove of service in sustaining the patient's strength, just as the administration of thyroid has done in myxedema and suprarenals in some cases of Addison's disease.

6. **Distortion of Spine.**—The nervous symptoms accompanying distortion of the spine from trauma are noticed at length, by Courtney, and the treatment suggested. Incompleteness of cord lesion accompanying this distortion is the most distinguishing feature, and is shown by their usual one-sidedness, varying degrees of sensory and motor implication, their local distribution and chronologic order, etc. All these are discussed at length and two cases reported.

7. **Operative Treatment of Fibroids.**—After reporting three cases of removal of fibroids, 2 subperitoneal and 1 submucous, Burrage says that conservatism should be the rule and hysterectomy is preferable to myomectomy only in cases near the menopause. As regards the mode of approaching this tumor his rule is as follows: 1. If the tumor is of small size, of submucous evolution, and projects into the uterine cavity, dilate the uterine canal by sterile laminaria or tupelo tents, beginning twenty-four hours before the time set for operation. Splitting the cervix is often an unnecessary mutilation, and, in the case of sloughing fibroids, it offers a fresh cut surface for septic absorption. It time does not serve for gradual dilatation, dilate when the patient is under ether, with the stout steel dilators until the canal will take the operator's finger. Remove the tumor by twisting, snaring or by morcellation, according to its situation and character. 2. If the tumor is of subperitoneal or subvaginal evolution, and is in the cervical region, and the vagina is of good size, perform either anterior or posterior colpotomy and enucleate the tumor without opening the peritoneum, if possible, closing the incision with buried sutures of catgut. 3. If the tumor is of subperitoneal evolution in the region of the fundus, and in all other cases, open the abdomen, incise the capsule of the tumor along one side and enucleate it; then close the bleeding surface left with buried continuous sutures of catgut. At the present time he seldom has occasion to curette, and he does not think steaming of the uterine cavity has the sanction of successful experience. Electricity has no lasting effect on the tumor. Removal of tubes and ovaries has been abandoned as an operation as ineffective, and not much is to be expected from ligation of the uterine arteries.

8. **Conservative Operation for Fibroids.**—Kingman reports two cases illustrating the value of conservative methods where a more radical one would at first sight appear to be indicated. He believes that the percentage of cases of submucous sessile fibroids that can be removed by the vaginal route would be increased if digital explorations were more commonly employed, and he thinks that the tent has still some use in such cases. We ought to be able to remove pedunculated fibroids and fibrocystic tumors by the abdomen, whatever their size, and there can be no question that the presence of such a mass of tumors as to obliterate all evidence of a uterus, when the tumors are complicated by presence of suppurative disease, and where the patient has passed the menopause, also in certain other complications, such as Graves' disease, would make hysterectomy advisable.

12. **Puerperal Septicemia.**—The dangers and fatal tendency of puerperal septicemia compel one to employ whatever agent holds out any hope, and Hering reports that he has used two which are still *sub judice* to some extent. One of these is guaiacol, which he thinks is advisable only for lessening temperature. Given a case with a record of 100 to 105 F. and general depression attendant on septicemia, he has employed sponge baths, given at regular intervals, and guaiacol rubbed into the abdominal wall every hour until its antithermic effect became manifest. The other agent was antistreptococcus serum, and the good results attendant on its use have led him to believe in continuing its employment. This fails sometimes from mixed infection, as well as from other reasons. In many

cases the staphylococcus and bacillus coli are very active, as well as streptococci. The streptococcus itself is a very variable organism, and the serum effective in one form may not be so against others. The author attributes the failure to the use of old serum, delay in inaugurating treatment, insufficient use of the remedy and overstimulation of the patient. All his patients were curetted gently and thoroughly, the uterine cavity irrigated with weak bichlorid solution; the objections to curetting are invalid if it is properly done. He introduces a narrow strip of sterile iodoform gauze, and always evacuates pus where it can be reached by vaginal incision. In addition he has given a daily douche of a hot weak solution, and noticed reduction of temperature each time. The use of morphin is condemned. The administration of antistreptococcus serum is begun as soon as it can be procured, injected into a sterile area of tissue, with sterile hands and a sterile syringe. He doubts the value of giving quinin, as it impairs the oxygen-carrying function of the red blood-cells; when given it should be combined with ergot. He also protests against the trust in sterile gauze, as given out by manufacturers. He always adds more iodoform and throws the gauze in a bichlorid solution, keeping it there until needed. For stimulation he gives strychnin, beginning with 1/30 to 1/40 gr. and gradually tapering off, giving in conjunction caffein and sodium salicylate in 3 to 5 gr. doses every three or four hours, and continuing it after stopping the strychnin. For restlessness and insomnia he uses trional, 20 gr. and codein, 1/4 gr. at bed time. With these measures he carefully keeps up the nutrition of the patient, by a liquid diet.

13. **Chronic Carbon Monoxid Poisoning.**—Yarrow reports and illustrates a case, and calls attention to the value of the use of the spectroscope in diagnosis of obscure cases of poisoning. He thinks carbon monoxid poisoning may be much more common than generally supposed.

15. **Tuberculosis.**—In this article Wright notices some recent literature in regard to tuberculosis: Viquerat's paper attributing the cause to succinic acid; the demonstration of Cornet as to the importance of dried sputum infection, and the overthrow of Flugge's idea of transmission by coughing; the theory of contagion or infection by way of the tonsils, and the question of latent tuberculosis. He thinks that the statistics published can not be extensively relied on to establish the proportion of cases where adenoids and tonsils are the seat of the so-called latent tuberculosis. He does not believe that he will be able to bring his average, by microscopic examination, up to 5 per cent., which is Lewin's figure.

17. **Gouty Deposits.**—McGinnis' paper calls attention to the use of cataphoresis for introducing lithium locally into the gouty region, and its effects. Two patients thus treated have been much benefited, and a third one now under treatment is much improved.

18. **Justus Test for Syphilis.**—After a histologic introduction, Jones gives his personal experience with fifty-three cases in which this test was employed. He thinks that it is of value in the recognition of doubtful cases of syphilis, though not infallible. It often fails in two classes where diagnosis is especially desired, viz.: in latent cases and in early chancre, and sometimes in the beginning of the secondary stage. Its limitations have not yet been entirely worked out, but in certain cases where the question is as to syphilitic or tuberculous origin the Justus is of decided value.

19. **Traumatic Spinal Hemorrhages.**—The main subject of Bailey's paper is primary traumatic hematomyelia, but he notices primarily two other conditions, namely, pressure from displaced or broken-down protecting sutures and hematorrhachis. He thinks that the first of these is common enough, the second has been much overestimated by clinicians as to its frequency, while the third is relatively frequent, but its importance results from its favorable prognosis. Hemorrhage into the substance of the cord occurs without demonstrable lesions of the bones in a number of cases, and more would probably be known if we had autopsies. The situation is generally in the gray matter, but the white is not uninvolved if it is at all extensive. The focal hemorrhages are usually surrounded by some minute extravasations. When the hemorrhage is small, there need not be any visible inflammatory nor degenerative reaction. In contrast to the localized form limited to one special region, we have the disseminated type where the hemorrhage occurs throughout the whole spinal axis. This has been speculated on as causing traumatic neuroses. His earlier case, which is here reproduced, is the only one of which he has any pathologic records in the adult. Another case is also reported of his observation. The symptoms of both large and small focal hemorrhages are studied, and several cases which he interprets as due to these conditions are detailed. The place of election is in the cervical region in primary focal disorders. He believes that the condition known as traumatic diplegia brachialis is due to this rather than to extradural hemorrhage. Small focal hemorrhages do not directly menace life. The treatment of both kinds is the same: rest in bed; attention to bowels and bladder; the pain may be relieved by analgesics; iodid of potassium may hasten absorption. Electricity to the muscles is recommended, and after the immediate effects have passed away passive motion and massage.

20. **Treatment of Syphilis.**—Some of the points noticed by Proben are the destructive ravages of the disease on the nervous system, the multiform eruptions being less important than the visceral complications, the necessity of having the patient in as good physical condition as possible during the treatment, and the importance of mercury as the leading therapeutic agent. He notices the frequent occurrence of cases where there is no history, but amelioration of symptoms by specific treatment. Iodid toleration is usually well marked, but the medicine should be watched and should be given well diluted in water after meals. Mercury, however, is the sheet-anchor in the treatment of the disease.

21.—See abstract in THE JOURNAL of April 14, p. 934.

22. **Carcinoma.**—The method of Dr. Massey consists in cataphoric diffusion of the nascent mercuric salts, produced by electrolysis of metallic mercury inserted by the gold anode into the growth, the patient usually being under general anesthesia, and the chemical and cataphoric force being a direct current of 200 to 1200 milliamperes continuously employed for a time varying from fifteen minutes to 2½ hours. The immediate effect is the production of an area of necrosis involving the growth, beyond which extends a zone of sterilization in which the malignant germs are killed without destruction to the normal tissue elements. He claims that he has employed this in 37 cases, with good results in 13.

23. **Suprarenal Extract.**—The value of suprarenal extract in surgical operations on the eye, ear, nose and throat has been demonstrated by Murphy in over one hundred cases. In nasal operations, he thinks the action has been especially gratifying. He uses it as a routine practice in all operations within this region, as his experience has shown its value. He has also found it useful in hay-fever.

24. **Pelvic Tumors and Sciatica.**—Palmer reviews the anatomical conditions of sciatica, and calls particular attention to the fact that it may be due to pelvic tumor, with other symptoms referable to the pelvis, and the patient be utterly unaware of the real disorder. He thinks this may be unusual, but the case he reports is of this character.

25. **Good Complexion.**—Leviseur calls attention to the necessity of personal cleanliness, especially of the hands, in preserving a good complexion, as infection from these is most common. Avoidance of irritation, use of a soft towel, care of the teeth, digestion, etc., the disuse of irritating washes, cosmetics, soaps, hot water, etc., are also mentioned.

27. **Cell Reaction to Anilin Dyes.**—Harris, after stating the general principles of staining with anilin, and the different reactions of nuclei and protoplasm, gives the method which he has found most useful. The remainder of his article is taken up with a description of the different forms of cells, their origin, morphologic and tinctorial characters, their occurrence and function.

28. **Parasites of Estivo-autumnal Malarial Fever.**—Craig gives the results of his study in Cuba and the Philippines. He believes there are two definite types of estivo-autumnal fevers—the quotidian and tertian—and he describes their

parasites in the different stages of their development. The quotidian form is less known, though it is mostly found in pernicious forms of the disease. He concludes that logical facts force him to agree with Marchiafava and Bignami as to the existence of these two varieties, one having a life cycle of development of twenty-four hours, and giving rise in uncomplicated cases to a fever with quotidian paroxysms; the other having a life cycle of forty-eight hours and tertian paroxysms in which the temperature-curve is peculiar and characteristic. One of the most striking differences between the two parasites is their size, the quotidian being minute and usually contained within the blood-corpuscle in its segmenting stage, while the other is more than twice as large and is outside of the corpuscle during this stage.

29. **The Soldier in the Tropics.**—Woodruff's article covers a large compass of factors in regard to tropical army life. The food ration is discussed. He finds a necessity of meat diet as evident as in a more temperate climate; there is one change which he has advocated, and that is adding something to the soldier's allowance, to enable him to modify his diet as he may require. He seems to think that alcoholic stimulants are to a certain extent a necessity in the tropics, while he is not quite ready to recommend the daily ration of wine and whisky, he thinks it seems reasonable. In any case a liberal diet for the soldier in the warm climates is the legitimate conclusion to be drawn from the facts observed. Overeating is less responsible for sickness than has been supposed; most tropical diseases are germ disorders. The usefulness of the abdominal bandage is also another fiction and he does not believe that the white race can be acclimatized in the tropics, while one of the ways in which we will have to carry the "White Man's Burden" successfully is to furnish liberal diet and all necessary comforts to our soldiers in those parts.

30. **Cuban Hospitals.**—Armstrong describes the hospitals of Puerto Principe, Cuba, which are far from being model institutions, according to his account.

32. **Porto Rico.**—The conditions in Porto Rico, from a medical point of view, are described by Hoff, who has been chief of the board of health and board of charities since their organization. What the board of health has done is summed up by him as follows:It has prescribed a state examination, and icensed all physicians, dentists, pharmacists, practicantes, midwives, and nurses now practicing here. By this plan it has obtained control of the medical personnel of the island, through whose effort its sanitary salvation must come. It has appointed sanitary inspectors in every district, from whom regular reports of sanitary conditions are received. It has founded a laboratory for the examination of food-adulterations, etc. It has organized a vaccin station for the production of vaccin virus to complete the work of general vaccination of the people, inaugurated by the medical department of the army, and to continue the current work. It is collecting and collating the vital and morbid statistics. It has published several bulletins on prevalent diseases, and finally it is meeting the numberless cases that are presented from all sources for it consideration and recommendation. In addition the boards have had the whole population vaccinated, as previously noted in The Journal, and have still to do with famine, having not less than over 200,000 people needing attention.

33. **Leprosy in the Sandwich Islands.**—Woodson describes the leper colony on Molokai, and commends the methods of the Hawaiian authorities in regard to leprosy.

34. **The Orient and Sanitation.**—The countries of Eastern Asia and the outlying islands are the home and focus of some of the most dangerous and infectious epidemic diseases. in- of the most dangerous and infectious epidemic diseases. in-cluding plague, dysentery, etc., all of which are noticed by Eldridge. He thinks that with the increase of travel, greater precautions will be required than have heretofore been the case, first the seacoast quarantine, which needs a uniform and single control. There should be more frequent examinations of ships from foreign ports, before bills of health are guaranteed by American consular officials. It is necessary for the steamship lines to have apparatus and means for disinfection and this deficiency of equipment is one of the more serious matters at the present time. The steamship companies however, are becoming more willing to make such installations, recognizing that it is for their interest to do so.

35. **Notes on the Philippines.**—Potter describes the people, sanitary conditions, etc., in the Philippines. As regards the former, he especially mentions the Tagalos, with whom we are having our present trouble. They are very negligent of sanitary matters, though cleanly in their persons, and stringent methods are required to render their habitations healthful. The water-supply of Manila is excellent, but the death-rate, even allowing the highest estimated population, is a very large one. The bubonic plague has had a high mortality-rate among those affected since its introduction. Venereal disease in the army is of but comparatively moderate importance, being hardly over 1 per cent., and that not of the serious form. Malaria is widespread, as might be supposed. Diarrhea and dysentery are obstinate, rheumatism common and not very amenable to treatment, and otitis media is one of the most frequent affections and very difficult to handle. Heat exhaustion is common and recovery slow. The general climate is not bad for those able to avoid exposure, but serious for those who are broken down.

37. **Bubonic Plague.**—Sternberg's paper is largely historical, but he gives the general facts as to the spread of the disease and the conditions which favor it.

38. **Intestinal Fever.**—The disorder described by Richardson is characterized by the following symptoms: anorexia, weakness of the limbs, headache and backache, cramps in the stomach, lienteric diarrhea and fever. It affected some 75 per cent. of the troops under his observation. The great difficulty in diagnosis is between it and typhoid fever, and its exciting causes are excessive heat, indigestible and improperly cooked foods, unsuitable clothing and drinking of native liquors. He believes in the utility of the abdominal bandage, which has been largely disused by the soldiers even when furnished, and his opinion in regard to liquor in the tropics is not that of Woodruff, mentioned above. (¶ 29.)

39. **Amebic Dysentery.**—Diamond describes several cases of this condition discovered in Chicago, but contracted in the South. He thinks that this illustrates the frequency with which his affection is overlooked in that region. Early diagnosis is of great importance and microscopic examination of stools is usually necessary. These should be stained in the fresh state as recommended by Harris, viz., by a .5 per cent. aqueous solution of toluidin-blue by passing the staining solution under a cover-glass through a pipet. By this the amebæ stand out prominently. The stools should be collected in a clean vessel and not mixed with urine, which kills the organism. In his opinion the best treatment is rectal injection of a solution of hydrogen dioxid and potassium permanganate. Of the former, a 25 per cent. solution may be used and of the latter 15 grains to a quart of warm water, two or three times a day, and gradually reduced according to results. Guarded prognosis must be given, however, as relapses are frequent, and the patient should not be considered out of danger for at least two months after apparent recovery, and during that period should remain on a liquid diet.

43. **Idiocy.**—West describes a case of Mongolian idiocy, the characteristics of which he gives. Its recognition is not a difficult matter. He mentions a case of a child under observation, with these characteristics, but apparently very bright, and will watch it rather expecting to see it become imbecile. Cretinism and hydrocephalous idiocy are also noticed, with other types of defective development.

44.—This paper has appeared elsewhere. See abstract in The Journal of February 3, ¶ 20, p. 285.

47. **Relation Between Physique and Mental Work.**—To test the observation of Porter, that precocious children weigh more and dull children less than the average at their age, which has been questioned by some, Beyer has made examinations of a large number of boys enlisting as navy yard apprentices, and confirms Porter's results. He suggests the adoption of this method of examination in public schools.

48. **"Sinusoids."**—This name is given by Minot to a special form of blood-vessels usually much wider than the capillaries,

having an endothelial wall only and no media nor adventitia. They differ from the capillaries in their origin from the modification of a pre-existing relatively large vessel which expands so that its endothelium intercresces with the growing parenchyma of the organ, and this parenchyma develops in the form of tubules—nephric or hepatic—or trabeculæ—cardiac. They are also differentiated from the capillaries by the fact that the latter are always more or less completely surrounded by connective tissue—mesenchyma. Sinusoids can be demonstrated in the pronephros, mesonephros, liver, heart, parathyroid, suprarenal capsules, and coccygeal gland. The vessels of the corpora cavernosa and allied structures are probably not sinusoids, but expanded capillaries.

49.—This paper was editorially considered in THE JOURNAL of March 31, p. 820.

50. **Branching Forms of Tubercle Bacillus.**—Smith shows, by microscopic examination in patients with tuberculosis that there may be unusual forms of tubercle bacilli present in sputum, either filamentous, branching, budding, or beaded in their appearance.

52. **Diphtheria Antitoxin.**—The question as to the advantages of antitoxin are discussed by Musser, who calls attention to his methods; he uses much smaller doses than are generally recommended. He commenced to give the serum before there were any data in regard to its use, and was naturally cautious, but the results have been so satisfactory that he has not changed. In children from 6 to 8 years old, his beginning dose is 500 units, repeated at intervals of six hours if improvement does not take place. To children of over 8 years, 1000 units are given as an initial dose, and at intervals of eight to twelve hours as needed. He reports thirteen cases, several of them with temperature-curves.

53. **Rectal Alimentation.**—Edsall points out the insufficiency of rectal alimentation in keeping up the nutrition of the body, and illustrates it with a carefully observed case. He does not wish to say that it is of little value, for it is sometimes our only resource, but it is only an unsatisfactory makeshift at best by which we can temporarily reduce tissue loss and tide a patient over a period during which the stomach is becoming equal to reception of food, or who is being prepared for operation for removal of mechanical difficulties interfering in taking food by the mouth.

55. **Hemianopsia.**—Schmidt-Rimpler's paper includes a complete discussion of the facts and literature on hemianopsia, but is not finished in this number.

56. **Sympathetic Ophthalmia.**—Three cases are reported by Gifford in which the absence of premonitory symptoms was notable. He also insists on the importance of daily tests of vision, and calls attention to the value of large doses of salicylate of sodium after the disease has appeared. He strongly favors the microbic theory of the disease.

57. **Cycloplegia.**—This article is the result of examinations on a thousand eyes in private practice. He concludes that a 2.5 per cent. solution of homatropin hydrobromate, instilled six times, at intervals of five minutes in the healthy eye, provides trustworthy cycloplegia in from one to three hours, and is as effective as a protracted use of 1 per cent. solution of atropin. It is desirable to produce an artificial cycloplegia in 10 per cent. of cases coming to an ophthalmic surgeon, hence the value of this agent.

63. **Head Injuries.**—Blaisdell reports and illustrates a number of cases of head injury, and insists on the value of the rongeur in preference to the mallet and chisel, which he thinks are dangerous in inexperienced hands. He gives a description of his own modification of the DeVilbiss rongeur, which he thinks is a nearly perfect instrument.

65. **Gall-Stones.**—Cordier's experience has not been in accord with that of others, as the majority of his cases have been in males. He deduces the following conclusions: 1. Cholelithiasis is of frequent occurrence and usually gives rise to manifest symptoms, either severe or obscure. 2. Cholesterin, as a gall-stone-producing agent, must be present in an abnormal quantity. 3. This is in a great measure a product resulting from the destruction and disintegration of the epithelium of biliary ducts and gall-bladder. 4. Bilirubin calcium, an insoluble compound, the outgrowth of the union of bilirubin and the lime salts, forms the nucleus of most of the stones formed in the ducts and the majority of those formed in gall-bladders. 5. Jaundice, ptomain poisoning and suppuration are late symptoms of cholelithiasis. 6. Dyspeptic symptoms, swarthy skin, uneasiness in the region of the gall-bladder—congestion of the liver—and loss of weight are some of the remote and local outgrowths of the presence of gall-stones. 7. Inflammatory diseases of the duodenum and bile-passages are the most direct causative factors in the production of gall-stones. 8. Some patients get well without any assistance from the physician or surgeon, yet the progress of those that terminate favorably without surgery can be greatly assisted by the physician. 9. The surgery is especially difficult and the inexperienced should not undertake it. 10. A ball-valve stone usually continues giving rise to symptoms until removed by surgery. 11. Stones in the gall-bladder, producing septic symptoms, should be removed.

66. **Sexual Function in Insanity and Crime.**—Macnaughton-Jones reviews the questions of the reflexes of the genital organs and the brain. The importance of the internal secretion of the ovaries on the normal metabolism of the patient would seem to him to also have a bearing as to the part of these organs in producing mental and nervous disease. He quotes extensively from various authorities, Claye Shaw, Clouston, and others, and from the entire evidence comes to the following conclusions: 1. The correlation of insanity and disordered sexual functions arising out of affections of the generative organs is a factor to be taken into serious consideration in the treatment of women mentally afflicted. 2. Where there is a ground for the suspicion that some abnormal condition of the uterus or adnexa exists, which may produce or aggravate the mental affection, a careful examination, under an anesthetic, if necessary, should be made. 3. In the investigation of criminal acts committed by women, either during the menopause or while the menstrual function is either active or suppressed, due weight should be given to the influence exerted by its irregularity or abeyance on the mind of the woman. In doing this, her previous history and temperament must be considered. 4. The special dangers of the climacteric period, and the symptoms indicative of threatening mania must be collected. The principal of these are moroseness and depression of spirits, attacks of hysteria, occasional hallucinations of sight and hearing, and especially of smell, suspicions with regard to relations, unjust dislikes, unfounded apprehensions of some great crime committed or injury inflicted on them, suicidal tendencies. Here, again, examination of the pelvic viscera is indicated. 5. In operation on the female generative organs there is a greater predisposition to mental disturbance than after other operative procedures—further, post-operative insanity is usually of a temporary nature. 6. Women who have been previously insane are predisposed to a relapse, by the development of disease in their sexual organs, and especially to temporary recurrence of insanity after operation on these. Under all such conditions and in the face of these warnings, the greatest supervision and care are required to anticipate the insane impulse, and to prevent suicide or crime in the case of women who manifest symptoms that may have their origin in disorders of the sexual organs.

68. **Uterine Fibroids.**—Gow discusses the indications for operation for these fibroids, and sums up that the lessened mortality of abdominal hysterectomy enables one to save the patient not merely from death but from invalidism. A patient who is seriously inconvenienced by fibroid, rebellious to treatment, and not suitable for enucleation through the vagina, may fairly be advised to submit to abdominal hysterectomy with subperitoneal treatment of the stump, provided the would-be operator has reduced his mortality to below 5 per cent. In his own operation, which he finds applicable to all patients, the first step is to ligate each round ligament on a level with the internal os. Then the anterior flap of the peritoneum is marked out with a knife, and the round ligament divided on the anterior side of the ligature. The anterior layer of the broad ligament may now be divided, carrying the

incision upward, toward the middle of the Fallopian tubes. The incision across the front of the tumor has thus been made high enough to permit a large anterior flap, which is stripped down with the fingers or knife-handle. The ovarian arteries and veins are next tied on each side, including the Fallopian tube. The ligature should be tied so that at least one ovary is left, but if the fibroid occupies one broad ligament, it may be more convenient to tie it on that side outside the corresponding ovary. The vessels having been tied, the broad ligament is divided on the uterine side of the ligature, the oozing being stopped with clamped forceps. This is done on both sides and the posterior flap is marked out with the knife and dissected downward for a short distance. The uterine arteries can now generally be felt without difficulty, and seized with pressure forceps at this level of the os interum. The tumor is now cut away with a knife, at the appropriate level, and the stump caught up and drawn to the surface with vulsellum forceps. The uterine arteries are then carefully tied, and he introduces what he calls a precautionary ligature—a curved, handled needle, armed with silk is thrust through the stump from before backward, avoiding the peritoneum, so as to allow the ligature to include the outer growth of the stump; this is tied on the outer side and includes the uterine artery which, however, has already been tied separately. A similar ligature is now tied on the other side, the object being to control oozing. After the latter has been stopped, he generally puts in two fore-and-aft sutures through the muscular substance of the stump, again avoiding the peritoneum, and in this way the raw surface is rolled together. He has never seen his ligatures discharged through the abdomen or vagina. After this the peritoneum is cleansed and the abdomen closed. He favors simplicity of operation, seldom uses more than six pairs of pressure forceps, and never more than six sponges. He never has but one assistant, and never allows anybody but himself to touch his instruments or ligatures. The most serious complication at the time of operation is the presence of old adhesions, such as may result from former perimetritis. Four cases are reported.

69. **Mixed Tumors of Kidney.**—Malignant tumors of the kidney of early life are discussed by Herzog, who notices the views of Birch-Hirschfeld and Wilms and gives his own as to their origin, after describing the development of the parts, as follows: The nephrotome—*mittelplatte*—is not cut off at the normal site, but in such a manner that a part of the myotome is severed from the main mass and remains in connection with the nephrotome. The separation may take place so that only a part of the myotome proper is cut off, or a part of the sclerotome may likewise be taken along. If the former is the case, we have the matrix for striated muscle-fibers only; if the latter occurs we have also the matrix for cartilage. If, now, we assume that a part of the nephrotome—Wolffian body—to which tissues of the myotome have become adherent by an abnormal process of abnormal separation becomes included in the permanent kidney, we have a matrix containing those elements which occur in the mixed renal tumors, namely, striated muscle-fibers, cartilage, other connective-tissue elements, and epithelial glandular structures. The latter are derived from the excretory tubules of the nephrotome. This explanation will account for the character of these peculiar renal neoplasms, without compelling us to take refuge, as Wilms does, in metaplastic processes unheard of in tumor formation.

72. **Diet in Nephritis.**—According to David, when cases of acute nephrectomy first come under treatment, it is best to enjoin rest in bed, withhold all food for twenty-four to thirty-six hours, give water freely and cleanse the alimentary canal by purgation. Milk should then be given, first in small quantities at intervals of two hours, the amount gradually increased until two quarts are taken daily. It is best given in small amount, one or two ounces at a time, especially if there is any distress on taking it. Where the patient can not take it, either plain or flavored, water-gruel may be given, but there is really no substitute. When the urine becomes copious, farinaceous foods may also be prescribed, and when albumin disappears, egg can be tried. Close watch must be kept on the addition of albuminous foods in the diet. Red meats should not be eaten until recovery is complete. When the stomach is intolerant at the beginning, water should be given hypodermically by the rectum, to insure renal elimination, but as a rule, when the bowels are well emptied, the kidneys begin to act and vomiting ceases. In chronic diffuse nephritis the indication for milk diet is similar, but the disease is so prolonged that it can not be maintained continuously and may be given intermittently, or sometimes modified by the addition of bread, starches, fruits, etc. Vegetables can generally be given, but rhubarb, sorrel and tomatoes should be excluded, perhaps also cabbage, asparagus, spinach and artichokes, on account of the oxalates they contain. Eggs are the least harmful of albuminous foods. The effect of fish is questionable, but if fresh it is probably as little harmful as any. Salt and smoked meats, excepting ham, should be avoided, and fried articles generally. In chronic interstitial nephritis an abstemious diet is advisable; even simple animal food should be used in small quantities, excepting milk. Tea, coffee and chocolate can be used in moderation. Water is the beverage; alcohol is forbidden.

74.—See abstract in The Journal of February 17, p. 425.

76.—Ibid., p. 422. 77.—Ibid., p. 425. 78.—Ibid.

79.—See abstract in The Journal of July 29, p. 288.

81. **Tuberculosis.**—Denison calls attention to certain points in the diagnosis and management of tuberculosis, especially the fact that the matured bacillus does not appear until late in the disease. There is necessity, therefore, of rendering every possible means of early diagnosis apart from the germ evidence. He gives a new definition of consumption: "It is a degeneration or slow death, due to the vitiation of the blood, generally produced by defective ventilation of the lungs, a prominent and advanced symptom of which is the bacillary germ of tuberculosis."

83. **Varicocele.**—Freeman recommends the use of the angiotribe in operation for varicocele, as it renders its removal simple and expeditious. He has operated this way a number of times with uniformly satisfactory results.

85. **Abortion.**—The need of thorough removal of placental debris after abortion is emphasized by Belt, who prefers the finger to the curette for this purpose, as less dangerous.

86.—See abstract in The Journal of February 17, p. 431.

87. **Adherent Pericardium.**—Rogers reviews the diagnostic characteristics of this condition, the most important of which are the range of cardiac motion, diastolic shock, pulsus paradoxus, right enlargement, and systolic retraction of lateral and posterior chest walls (Broadbent). Very few cases of cardiac disease in the young will not improve under proper treatment, unless pericardial adhesions exist. The prognosis is uncertain, but usually unfavorable when signs are clear.

90.—See abstract in The Journal of March 24, p. 749.

91. **Opium.**—The therapeutics of opium are summed up by Swing as follows: Morphin is necessary to relieve severe pain, and is still the safest agent for that purpose; it is indispensable in the majority of diarrheal conditions. It, or some one of its derivatives, is necessary to combat and relieve coughs, no matter what their pathologic cause, and in so doing their relief becomes a potent curative factor.

93. **Ectopic Gestation.**—The discussion of this condition is reviewed by Grandin, who notices the indefiniteness of the symptoms in certain cases and reports several showing this fact. He also gives an account of a patient in whom all the symptoms were present, and yet the condition found was pyosalpinx. He insists on promptness of operation in this condition. A clean cut is safer than expectancy. This has been his rule for years and he has not regretted it.

104.—See abstract in The Journal of Oct. 14, 1899, p. 982.

111.—This is the same paper as that under title 113.

113.—This is the same paper as that under title 111.

FOREIGN.

British Medical Journal, March 31.

Will-making in Aphasic Paralysis. James Edmunds.—The case reported is that of a woman, 60 years of age, of unusual intelligence and ability, who became aphasic with right hemiplegia. It was noticed that she could name the cards of a pack correctly and this suggested to her physician that by a somewhat similar means he would be able to get at her wishes in regard to the disposal of her property. He therefore provided a system of cards, each denoting one single item, either property, office or person. By taking one showing the item of property to be disposed of, the patient holding in her other hand cards with names of individuals who were likely to be her legatees, she picked them out and in this way was able to make her own will. The method received the commendation of the probate court. The idea is a good one, and it is suggested for future cases of the same kind. In this case there was no alexia, and in any case there must be the completest available lists of property or persons obtained. While it thus has its limitations as regards the knowledge of properties and legatees, it would seem, however, to be a safe and useful method for such cases.

The Lancet, March 31.

The Typhoid Bacillus and Typhoid Fever. P. Horton-Smith.—This author discusses the subject of relapses, which he thinks are due to imperfect immunity in prior infection and reinfection by germ. Typhoid fever without interstitial lesions is noticed, and the evidence that the typhoid bacillus may occasionally pass into the blood and become generalized in the organs, just as occurs in ordinary typhoid fever, without causing any interstitial disease even though the bacilli enter through the intestinal tract is reviewed. A very similar form of disease is not uncommon in the fetus; primary fetal septicemic typhoid is frequently the cause of the abortion that so often occurs in this disorder. That typhoid infection may also occur locally is shown by cases of cholecystitis reported by Cushing and others. A table is given of the various complications of typhoid fevers as they have occurred in examinations at St. Bartholomew's Hospital during thirty years. They appear to be most frequent in the lungs, heart and intestines, though not absent from the liver, kidneys, etc. Those of the nervous system appear to be rare, but he quotes from Keen as having collected fifteen cases, by bacteriologic examination, with the typhoid bacillus in the meninges, and while some of these may be open to criticism, he especially mentions the report of Ohlmacher in The Journal as being conclusive. The respiratory system is represented largely in ulceration of the larynx and lobular pneumonia, both of which seem to be thoroughly demonstrated. Vascular and cardiac disease are well known, and nephritis occasionally occurs; this may be attributed to the intoxication. The subject of typhoid bacteriuria is treated at considerable length, and the author concludes that there can be little doubt that the typhoid bacilluria is due to infection of the urine by stray typhoidal bacilli excreted by the kidneys from the blood, and their immediate multiplication in the urine. If, in addition, the bladder walls have been in any way damaged, true typhoidal cystitis follows. The bacillus is found in the urine in probably 25 per cent. of the cases, hence the importance of this symptom. Other subjects mentioned are cholecystitis and bone suppuration. The presence of bacilli in other suppurations is very rare. The long-continued presence of typhoid bacilli in the body is amply demonstrated, both experimentally and clinically. A most remarkable case is that reported by Von Dungern, in which the typhoid bacilli were present 14½ years after the typhoidal attack. The patient, therefore, may be a social danger for months and years.

Treatment of Rheumatism, Its Prophylaxis and Cardiac Complications. Richard Douglas Powell.—The writer alludes to certain organisms discovered, and cautiously favors the germ idea for rheumatism. He says we can have no quarrel with any hypothesis which leads to so practical a therapeutic suggestion as that of the salicyl compounds in the treatment of rheumatic fever. He refers also, among other things, to the possible nervous elements in its origin. He can not, moreover, regard rheumatism exclusively from the cardiac side, and thinks the definition of the disease is "a systemic disease with arthritic and cardiac manifestations," which is within the limits of our knowledge of the actual causes at work in acute rheumatism. In the treatment, he suggests a liquid diet, absolute rest in bed with woolen wrappings, free relief of bowels and the administration of salicylate of soda in efficient doses, combined with such alkaline remedies as the condition of the urine suggests. It is important not to allow the patient to get up too soon, the after-effects being often due to disregard of this. We are not required to give opium to any great extent, though it is useful for relief of pain, but in grave forms of endocarditis and especially pericarditis, it is of marked value, as it causes organic rest. As to blisters, he does not believe much in them theoretically, but practically they seem to be of some value.

Revue de Chirurgie (Paris), March 10.

Tumors of Biliary Passages. F. Terrier and Auvray.—Sixty observations are tabulated, with details, some personal and the rest collected from the literature. They show that the ultimate results of radical operations for neoplasms of the gall-bladder are deplorable: an immediate mortality in 35 per cent., and recurrence within a few months in the rest. Hochenegg's patient alone survived two years in good health, and died a year later from recurrence. The average of survival was six to eight months. Palliative operations for cancer of the gall-bladder are even less encouraging. Death from cachexia was frequent within a few days after operation. The immediate mortality was 26.66 per cent., and only one patient out of fifteen survived a year. The icterus persisted and even increased in a few cases. Eight operations for neoplasms of the excretory biliary passages were all palliative. Two cholecystostomies for cancer of the common bile-duct were followed by death from the debility of the patients at the time of intervention. In one the feces had resumed their normal color, showing that the operation had been successful. The cholecystenterostomies for cancer of the common bile duct resulted in one survival and two deaths soon after operation. The icterus disappeared in one of the latter, and in the patient who had survived six months at the time of the report the operation had cured the icterus and pains. The single case of choledochoenterostomy succumbed in fourteen days to progress of the lesion; the icterus had persisted. Two cholecystenterostomies for cancer of the ampulla of Vater resulted in one death and one survival for fourteen months, in good health until the last two. (Terrier.) In the fatal case cholecystostomy had been done six days previously, and a pancreatic fistula was also implanted in the intestine at the same time the cholecystenterostomy was done, with collapse from these prolonged maneuvers. Terrier concludes, from his study of these experiences, that while the results of these palliative operations have been far from brilliant, yet this is the route to follow. These new operations are the only ones which remedy the accidents caused by the retention of bile, and they may enable the patients to survive a long time, under the condition that they are done before the stage of advanced cachexia has been reached.

Burns Caused by Industrial Electricity. Mally.—Among the peculiarities of these burns is the absolute painlessness, the dry, parchment-like aspect of the burned surface, and the aseptic, rapid healing, unless the deeper tissues are involved, when the loss of tissue is irreparable. The treatment is very simple, merely immobilization of the member and protection of the wound with sterilized gauze. If grafts of epidermis are necessary, they heal exceptionally well, on account of the aseptic conditions. If complicated by burns, from the clothing, etc., catching fire, the usual treatment of the latter is required. When the electric burn affects the bone, it is apt to compromise the vitality of the peripheral segment and gangrene may result, requiring amputation. The burn is always accompanied by a more or less intense nervous shock. The patient may never recover from the syncope and there does not seem to be any connection between the gravity of this and the voltage of the current. As he recovers, psychic troubles are noted, more intense in those predisposed by disease or alcoholism. Another complication constantly noted by the writer was an atrophy of the muscles of the arm in case of burns of the hand. Sensibility and electric reaction seem normal but the atrophy may persist a long time even in persons free from all hysterical stigmata. The prophylaxis of burns from electricity consists in perfected apparatus and education of the employees, and, for the public, removal of overhead wires.

Treatment of Renal Retention. A. Gosset.—The intermittency is the constant, pathognomonic characteristic of renal retention, Gosset observes, and unless promptly operated on, the retention increases progressively to a fatal termination, the renal tissue deteriorates more and more, the retention becomes infected and the other kidney involved. He advises nephrostomy in every case of renal retention, septic or not, at once and without regard to the condition of the other kidney. This lumbar fistulization of the kidney and evacuation of the septic products rests the ureter and the ureteritis heals. The tension of the organ relieved, the products can be analyzed several days later and not until then can the actual value of the organ be determined, and whether it is worth while to save or remove it. The ureter must be implanted in the lowest portion of the pocket, either by dividing the ureter and suturing the end, or by a lateral anastomosis between them. The ureter must be also implanted at the thinnest portion of the pocket, and if this is not at the same time the lowest point, the pocket must be shortened to bring the base on a level with the mouth of the ureter. Nine patients have been operated on by Albarran, with one death: one with a permanent sound in the ureter and recovery; one with section of a spur and recovery; five others with preliminary nephrostomy and lateral anastomosis of the ureter with a pocket a few weeks or months later. One has been cured for two years, one for eighteen months, and one for a year.

Branchial Epithelioma of Neck. V. Veau.—Six personal observations, added to the forty-eight on record, show that "malignant branchioma" is not so rare as generally assumed. The treatment should be preventive in case of branchial fistulæ, cysts and mixed tumors, by removal before malignant transformation. If ablation of the branchioma is possible it should be extensive. The vein will have to be ligated, but this is free from danger. The artery should be respected; its ablation may entail cerebral accidents, and ligating it to prevent or arrest hemorrhage caused the death of one of Veau's patients. The vagus may have to be resected; this is less dangerous than ligating the primary carotid. It is best not to attempt autoplastics. The branchioma may develop from the various elements of the branchial arches and be located in the parotid and submaxillary glands or in the thyroid gland, possibly also in the mediastinum, but it is most frequent and most typical in the neck.

Bulletin de l'Academie de Medecine (Paris), March 13 and 20.

Influence of Meat Extracts on Growth and Health of Animals. A. Gautier.—The research reported extended over many months, and large numbers of guinea-pigs were the subjects. The results showed that soup, good bouillon, is an actual food, a stomachic stimulating gastro-intestinal secretions, and a general tonic, by its proportion of albuminoid matters, its appetizing odors which stimulate the secretions, its creatin and xanthin bases which in small quantities act as a tonic on the heart and muscles (like caffein, which also belongs to the xanthin family), by its organic phosphorized derivatives from the lecithins, and lastly by its soluble assimilable phosphates. The young, growing, omnivorous animal thrives best on its natural food, and the utilization of the food ingested is enormous in these conditions. With preparations derived from meat there is a deficit of one-seventh compared with the utilization of natural food, in health. But the case is reversed in conditions of debility, with imperfect digestion, or lack of appetite, from nervous or other causes. In these circumstances meat extracts restored the weight to normal more rapidly than the natural food, and they are therefore probably very valuable in similar conditions in man. The substances found most effective were Kemmerich's peptonum carnis (prepared by chemical hydrolysis), Liebig's extract and somatose, in the order named.

Treatment of La Grippe.—In the discussion that followed Huchard's communication (summarized, page 810), Mignot called attention to the peculiarity of the recent epidemic of la grippe, and that calomel seemed to have a specific power in aborting the disease. Fernet proclaimed that the kidneys are the important organs in la grippe, and everything should tend to keep them at their best. For this purpose he restricts patients to a milk diet, with abundance of drinks, and in serious cases a subcutaneous injection of salt solution. Rectal injections of diluted milk may be found useful; also baths to reduce the fever. He recommends applying a napkin wrung out of cold water to the thorax for half a minute, repeating from every hour to three times a day, not only in la grippe but in other passive congestions of infectious diseases. He explains its action as a stimulating effect on the sensory nerves of the thorax, thus stimulating the vagi by reflex action with consequent contraction of the capillaries in the lung and slowing of the heart's action. The effect seems to be most pronounced on the pulmonary or cardiac branches of the pneumogastric, according as the initial stimulation is applied to the side walls of the thorax or the precordial region. He disapproves of quinin in la grippe, as it has a depressing action and is therefore counterindicated, but he approves of strychnin as the best remedy for the nervous asthenia. He concluded: "It is not the mission of the physician to prescribe drugs; frequently our task is to keep people from taking the more or less dangerous remedies so extensively advertised or that happen to be the fashion."

Individual Tongue Depressor. Fournier.—"We never know the nature of the lesions we find in the mouths of our clients until we examine them. Frequently they are a great surprise, and the possibility of contagion by the wholesale use of a few tongue-depressors is by no means slight." For this reason Fournier considers the individual wooden depressor a great improvement. It is made as usual, only with a groove across the center, and costs about one-half a cent. Each one is broken across at the groove, as soon as the examination is finished, so that it can never be used again.

Systematic Percussion of Skull in Cranio-Encephalic Diagnosis. Gilles de la Tourette and Chipault.—The tone given on percussion of a region of the skull, the hair parted or shaved away, varies with the thickness of the bone; it is clearer as the bone is thinner. The sound is more distinct on the side of a trephining. In two cases of old fracture of the skull percussion produced an actual cracked-pot sound. The middle finger of the right hand is better than a hammer. The patient must keep his mouth closed. Premature synostosis of the bones of the skull can be detected by this means in heredosyphilitics, idiots, etc., and indicate liberating craniectomy.

Hyperostosis of Orbit. Dianoux.—The progressive exorbitis imposed operation, and fragments of bone amounting to the size of a large nut were removed with gouge and mallet, through an incision parallel with the orbito-nasal margin. Electric treatment with continuous current completed the cure.

Vacher's Brain. J. V. Laborde.—The experts who decided the responsibility of the famous "shepherd killer," Vacher, asserted that he had recovered from the temporary alienation for which he had been incarcerated, and was therefore responsible for the eleven murders for which he was executed. Laborde and three others have been making a study of the brain (left hemisphere), and state that the morphologic development is superior to the average, resembling that of Gambetta. Vacher's facility of speech and remarkable memory were frequently mentioned in the reports at the time. "A simple functional deviation is therefore capable of engendering a great assassin, who might have been under other circumstances a great orator and a great citizen." The remarkable development of the ascending frontal and parietal Rolandic convolutions and of the quadrilateral lobule, the motor regions par excellence, Laborde considers another proof of the close relations between function and organ, as Vacher walked and doubled on his steps, covering the most extraordinary distances to avoid detection. He concludes from his study that Vacher, a hereditary epileptic degenerate, was affected with maniacal delirium, with ideas of persecution, impulse to suicide and homicide, and sadism and inverse sexual depravity, and committed his ferocious, lustful crimes under the morbid and irresistible domination of this influence, with a system which does not deprive them of their impulsive and fundamentally delirious characteristics. This mental state does not necessarily imply an organic alteration perceptible by our present methods of research, but it may reside in and be explained by purely functional modifications of the organic substratum.

Rhythmic Tractions of the Tongue in Asphyxia During Typhoid Fever. J. V. Laborde.—A soldier with hyperpyretic, septicemic typhoid fever suddenly developed alarming bulbar symptoms, with unconsciousness, trismus and asphyxia. The teeth were kept apart with corks, and rhythmic traction of the tongue restored the patient, who at once seized the forceps and continued the tractions himself. The asphyxia recurred a number of times during the following two hours, and each time the patient himself renewed the tractions and kept them up until he could breathe freely, not allowing anybody else to touch the forceps. Autotraction has been found effectual before—continuous for hiccough and repeated for asthma—but this typhoid case shows the ease with which it can be employed.

Presse Medicale (Paris), March 17, 21, 24 and 28.

Generalized Extravisceral Sarcomatosis. Lepeyre and Labbé.—Recklinghausen's neurofibromatosis is characterized by the development of fibromata along the nerve routes and on the skin, and by various nervous disturbances. In the observation described the syndrome differed from this in the sarcomatous *nature of the tumors; the absolute integrity of the nervous* system and lymphatic ganglia. The patient, a young man, died of cachexia in three months after the first appearance of the tumors. They were extremely numerous over the trunk, head and face; the connective tissue was crowded with them, also the mesentery, pericardium and peritoneum. In all the cases on record the patients were degenerates, with stunted physical and mental development, motor and sensory disturbances, paralyses and extensive nevi along the nerve routes.

Polyuria and Renal Impermeability in Arteriosclerous Heart Disease. P. Merklen and A. Martin.—The research reported in this communication establishes that the polyuria observed in "asystolic cardiacs," which differs from the classic formula of the urology of asystolia, is in reality due to the milk diet imposed by their condition, and is a necessary and beneficent polyuria. The degree depends on individual predisposition and prolonged use of alcohol or rich food. Under the influence of the milk, the volume of urine increases and also the amount of urea contained in it. On suspension of the milk the amount of urine diminishes and dyspneic attacks occur. The kidneys in twenty-three cases examined differed but little from the cyanotic kidney common in heart disease. There was no atrophy, nor granulations, but the arterial contraction of the lumen of the arteries from the renal arteriosclerosis produced a kind of epithelial dystrophy manifested in impermeability, cellular dystrophy, mortification and desquamation of the epithelium. Milk compensates this renal impermeability of ischemic and dystrophic origin, and seems to have a specific action on the renal function, at the same time stimulating the secretion of water and the elimination of urea and of other excrementitial elements. The polyuria is the measure of its efficacy.

Cellular Retrogression of Striped Muscle Fibers. G. Durante.—In the course of the development of the striped muscles, a certain number of cells combine to form a muscle fiber. Durante has established that there is a lesion of the adult muscle, a mode of reaction to pathologic causes, absolutely distinct from degeneration, which consists in the retrogression of the muscle fiber, a return to the embryonal condition by retracing the development of cells into fiber, the primary cells becoming again more and more individualized. This cellular retrogression may be partial or complete, and usually leads to the lengthwise splitting of the fiber. This retrogressive process must not be confounded with degenerations which entail the destruction of the fiber. In the retrogression the fiber is retained *in toto,* but may undergo various transformations later. The process may result in accumulation of separate cells or of protoplasmic masses. In pathologic conditions the fiber may disappear from successive divisions and various metamorphoses, which may explain the etiology of simple atrophy, and also of interstitial adiposis and the apparent increase in the connective tissue in amyotrophy. In healthy muscles the elements thus isolated continue to flourish, instead of disappearing, and the result is numerical hypertrophy instead of atrophy.

Streptococcus Peritonitis. G. Milian.—A girl of 17 died from an acute peritonitis in which not a single lesion could be discovered in the alimentary canal or any abdominal organ. It seemed to have been an *infection propagated from a preceding* tonsillitis. The pus in the peritoneum contained the pure streptococcus.

Absorbing Capacity of Pleura. J. Castaigne.—A soluble substance injected into the pleura of a dog is eliminated more rapidly and in larger amounts in the urine than when the same quantity is injected into the subcutaneous cellular tissue. Assuming that normal pleural absorption in man obeys the same laws, Castaigne has been studying the comparative absorption in 32 cases of pleurisy, and announces that the absorbing capacity can be utilized in the diagnosis. Pleural absorption in purulent streptococcus pleurisy is about the same as normal, while it is very much reduced in the pneumococcic and tuberculous varieties. In hemorrhagic pleurisy, only those with cancer showed a high absorbing power; in serofibrinous the pleural absorption in three cases revealed the nontuberculous character of the lesion. In regard to the prognosis, the purulent and hemorrhagic pleurisies in which the absorbing capacity was high always proved the most severe, but on the other hand, all the *serofibrinous ones with high absorbing capacity during the* first fifteen days terminated in the most rapid recovery and without adhesions. Of all the numerous means to increase the absorbing capacity tested, the most effectual were cauterization with a conical cautery, salicylates by the mouth or, better still, in the form of frictions of methyl salicylate on the thorax, afterward wrapped in cotton. These increased pleural absorption to a remarkable extent.

Dermatologisches Zeitschrift (Berlin), February.

Treatment of Syphilis in General and of Tabes Postsyphilitica in Particular. H. Tschirieff.—Seventeen years' experience in the neurologic service of the military hospitals at St. Petersburg and at Kieff has convinced Tschirieff that syphilis is a constitutional disease and is never completely cured, and that iodid given with the mercury prevents the absorption of the latter. He describes tests which confirm this prevention of absorption of mercury by the iodid, and explain the more frequent recurrences of syphilis, and especially of syphilitic affections of the central nervous system, when iodid was combined with the mercury. The method he recommends is a daily bath at 35 C., twenty to thirty minutes in length. Half an hour to an hour after the bath the inunction is made, for which he prefers mercurial soap, as it requires less time than the ointment. The back and sides he considers best adapted for the inunctions, which are made for six days, then omitted the seventh, repeated for five to six weeks; the mouth rinsed with saturated solution of potassium chlorate seven to eight times a day. After five or six weeks of inunction and an interval of one or two weeks a daily bath at 35 C. is taken three times a week and .5 to 4 gm. of a preparation of iodin three times a day, after meals, in a glass of milk or milk and Selters water. Sleep is regulated with bromids and the heart supervised. This method of treatment requires three months and usually gives remarkably fine results, not injuring the organism in any way, but actually raising the general tone and increasing the weight. One of his patients is a man of 60, who for forty years has taken a hot bath every day and makes several inunctions every week, and his health is as perfect as is possible for a man of his years. The causes of the frequent affections of the central nervous system are inadequate treatment of the syphilis, abusus spirituosorum, excesses of all kinds, including intellectual work, and frequent chilling of the body, especially the lower extremities, from climatic conditions. He treats postsyphilitic tabes with specific treatment, Charcot douches to the back, electrization of the spine and medulla oblongata, cauterization of the spine with the Paquelin every tenth to fourteenth day, strychnin pills to restore the function to the centers of erection and defecation, and subcutaneous injections of atropin and morphin for the lancinating pains. This treatment arrests and may possibly cure the sclerosis of the posterior columns of the spinal cord, which he considers the specific lesion of postsyphilitic tabes. Every treated showed marked improvement.

Nordiskt Medicinskt Arkiv (Stockholm), March 10.

Fat Embolism. Death from Embolism of Olive-Oil. J. Fibiger.—The patient was fed by alimentary injections per rectum, and subcutaneous injections of olive-oil (Leube) on account of stricture of the esophagus and stomach consecutive to cauterization with hydrochloric acid. About 2325 c.c. of oil had been injected in the course of nineteen days, and the weight had increased by 4600 gm., when cerebral and respiratory symptoms appeared, such as are observed in cases of fat embolism, with almost total left hemiplegia. The autopsy showed that deposits of the olive-oil had formed in the subcutaneous tissue and mesentery, and embolism of the oil was noted in all the chief organs, especially the brain and lungs. The largest number of emboli were found in the right motor centers of the brain, corresponding to the hemiplegia. Small fresh hemorrhages were also noted around the emboli. In the heart muscle some of the numerous emboli were surrounded by delicate globules of fat presenting the same appearance as in fatty degeneration, with pronounced segmentation and vacuolar degeneration. The fibers showing fatty degeneration did not seem particularly affected by segmentation, but vacuolar and fatty degeneration were sometimes combined in a single fiber. No bacilli were found in the heart. In the kidneys the emboli were accumulated in the glomeruli. The fat noticed in the urine was probably derived from these accumulations, and this fatty degeneration was probably due also to embolism. Experiments on rabbits, injecting olive-oil into the renal artery of one kidney, produced similar results, from which Fibiger concludes that in fat embolism of the kidney in man, with obstruction of the glomerular vessels, it is probable that at a certain, not far advanced stage of the disease, the lipuria is due to an accumulation of fat in the epithelium of the intermediate parts. The cells gorged with fat, become detached, and the free globules of fat are evacuated into the lumen of the tubes. The process in every respect resembles that of fatty degeneration, with which it is probably identical. It is possible, he adds, that disturbances in the circulation, caused by obstruction of the glomerular vessels with fat, may be the starting-point of the process.

Congenital Dilatation and Hypertrophy of Sigmoid Flexure in a Boy. K. G. Lennander.—Hirschsprung called attention to this deformity in 1886, but very few cases have been reported. In the observation described, the enormous size of the abdomen, diarrhea alternating with obstinate constipation, the flatulence and gurgling sounds in the abdomen suggested peritoneal tuberculosis, but study of the case convinced Lennander that there must be some congenital deformity, so he opened the abdomen, expecting to make an anastomosis. He found the sigmoid flexure colossal, and so dilated and thickened that the success of an anastomosis seemed dubious and he refrained, instituting faradization instead. Each day a liter of salt solution was injected into the rectum, and one of the electrodes inserted, while the other was applied to the exterior of the abdomen—the current as strong as the 4-year-old could bear —for ten minutes. This treatment was continued daily for three years. At the end of this time the appearance of the child had become normal, and the functions have remained regular to date, a year since dismissal.

Pathologic Importance of Version and Retroflexion of Uterus. G. Heinricius.—Contrary to the generally accepted opinion, Heinricius does not ascribe any pathologic importance to backward displacements of the uterus, considering that the symptoms usually attributed to them are in reality due to complications on the part of the uterus or adjacent regions, or even of parts remote from the genital sphere. He thinks that orthopedic or operative treatment is useless unless indicated by an infection of the adnexia or something of the kind. Backward displacement of the uterus can not induce symptoms unless the organ presses on others in the neighborhood. and, in the majority of cases, hysteria and neurasthenia are the chief factors in the symptoms erroneously ascribed to the retrodeviation. He tabulates details of 200 cases.

Progres Medical (Paris), March 17.

Necessity of Lavage of Stomach Before Gastroenterostomy. R. Berlin.—In an observation reported of cancer of the pylorus, there had been constant vomiting for a month. The debility was extreme and the stomach was not rinsed preparatory to operation, as authorities still disagree as to its necessity. But on puncturing the stomach a large amount of a blackish, fetid fluid was released, and a flood of undigested matters, including prunes and cheese, etc., forced its way out of the stomach. inundating the field. The patient died the next day, of septicemia. The food found must have remained in the stomach for seventeen days, the last date at which solid food had been taken, and in spite of the incessant vomiting. Even if the large fragments could not have been removed through the sound, the inundation would have been prevented and the patient probably saved by a preliminary lavage.

Muenchener Medicinische Wochenschrift, March 27.

Agglutinin. M. Hahn and R. Trommsdorff.—Typhus and cholera bacteria, after being agglutinated with specific sera, were shaken up in a 1/100 normal solution of soda or of sulphuric acid, and left to soak for an hour. At the end of this time the agglutinating substance had been extracted from the bacteria and was in suspension in the fluid, producing agglutination even at one-tenth dilution. The same effect was obtained after neutralization of the alkali.

Pseudomucin in Ovarian Cysts. Zaengerle.—Crystals obtained from this pseudomucin are soluble in water, are dextrorotatory, react to Trommer's test and develop ammonia when boiled with alkali. They therefore resemble the glucosamin obtained from the mucin of the sputa and submaxillary glands and from ovomucoid and egg albumin. Pfannenstiel has established that the pseudomucin is a product of the goblet cells which line the walls of cystoma, and as the mucin of the salivary glands and air-passages, and also egg-albumin and ovomucoid are products of glandular activity, these glucoproteids evidently form a group of bodies distinguished by the fact that they are the products of secretion of cells and of gland-like cells in particular, although not a regular gland secretion.

Early Diagnosis of Tuberculosis. Puncture of the Lung. M. Henkel.—According to experience at Hamburg, the first signs of tuberculosis are not at the apices, but noted by auscultation in the fossa supraspinata and infraspinata, the region between the shoulder-blades, and first of all in the fossa infraclavicularis. The sound is compared by Turban to the whining of puppies. The clinical symptoms sometimes suggest tuberculosis, but no bacilli can be found, and in these cases Henkel punctures the lung at the point where the signs are most pronounced. In certain observations the sputa came from the non-tuberculous catarrh, while the tuberculous lesions were ensconced in remote capillaries, making no external manifestations. In such cases puncture might afford valuable information. A minimal amount of fluid is sufficient for bacteriologic investigation. The sensation as the needle enters the tissues is also instructive. No bleeding ever followed, and only very rarely was the sputum bloodstained for a few moments. The temperature rose slightly in a few cases, for a very brief period.

Surgical Intervention on the Heart. C. Stern.—The Journal has described—page 491 of the current volume—Rotter's method of opening up the heart to suture wounds. Stern relates an observation of a young man, shot through the heart, in which the organ was exposed according to Rotter's directions, with amazing ease and success. The front wound was sutured, but it was impossible to reach the wound caused by the exit of the ball, and tamponning proved ineffectual to prevent a fatal termination. He thinks that surgical intervention on the heart in case of stab-wounds can now take its place as a current operation with tracheotomy, etc., but with wounds from firearms the matter is more complicated, on account of the greater probability of a second wound at the rear of the heart. Suture of a wound at the rear lower pole of the left auricle—the location in his case—proved absolutely impossible.

Bulletin de la Soc. Med. des Hop. de Paris, March 15 and 22.

Leucocythemia with Mononuclear White Corpuscles G. Hayem and G. Lion.—In the three observations reported, the leucocytosis was considerable (527,000), and this increase was exclusively at the expense of the mononuclears, and of the colorless, translucid variety. The affection was chronic in all.

Epidemic of Pneumococcus Septicemia in Nurslings. Lesage.—Sixteen nurslings at the Trousseau Hospital, last August, were affected with a sudden acute septicemia, fever 41 C., with violent dyspnea and evidences of general infection. All died except one, and the epidemic died out in five days, from lack of further subjects. No lesions of any importance were found, but the bronchi were filled with an intense culture of pneumococci. Similar epidemics have been observed with streptococci, but Lesage has never found the pneumococcus pure before. There was slight diarrhea in a few.

Bacteriology of Measles. Lesage.—Two hundred cases of measles were studied and rabbits inoculated with nasal mucus or blood, from a large number. The results were positive in nearly every case, and Lesage considers himself justified in announcing that the delicate micrococcus he found so constantly probably has something to do with the etiology. As far as it is possible to recognize measles on a hairy animal, he thinks his inoculations induced the disease. The micrococcus cultivates best on gelose; decolors with Gram; takes stains slowly. The cultures resemble those of the pneumococcus. It was not found in 25 cases of scarlet fever, but constantly in six cases complicated with measles, also in two cases of measles complicating diphtheria; it was never found in 45 normal children, and only twice in 53 children who had had the disease previously.

Bacteriology of Acute Articular Rheumatism. Triboulet.—Comparing clinical findings with those of bacteriology, Triboulet establishes that simple, uncomplicated rheumatisms are amicrobian, while the grave complications are evidently secondary infections. Bacteriology will in time determine, among the clinical varieties, those of lesser importance, which leave no pathologic defect, and those which may prove fatal and leave permanent lesions. Research should now be directed to establish the connection between this or that clinical complication and the various microbian infections. It seems probable, according to our present knowledge, that the staphylococcus and streptococcus induce moderate infections, that the presence in the blood of the diplococcus described by the writer may confer a character of subacute permanence on the rheumatism, while Achalme's bacillus is rarely met during life, but is found at the autopsies of the prolonged or fulminating cases in which polyinfection is frequent.

Societies.

COMING MEETINGS.

American Medical Association, Atlantic City, N. J., June 5-8.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 24.

Texas Medical Association, Waco, April 24.

American Proctologic Society, Washington, D. C., May 2 and 3.

Illinois State Medical Society, Springfield, May 15-17.

American Medico-Psychological Association, Richmond, Va., May 1.

American Association of Anatomists, Washington, D. C., May 1-3.

American Association of Genito-Urinary Surgeons, Washington, D. C., May 1-3.

American Laryngological Association, Washington, D. C., May 1-3.

American Surgical Association, Washington, D. C., May 1-3.

American Association of Physicians, Washington, D. C., May 1-3.

American Climatological Association, Washington, D. C., May 1-3.

American Dermatological Association, Washington, D. C., May 1-3.

American Orthopedic Association, Washington, D. C., May 1-3.

Arizona Medical Association, Prescott, May 2-3.

American Gynecological Association, Washington, D. C., May 4-6.

Medical Society of State of North Carolina, Torboro, May 5.

American Pediatric Association, Washington, D. C., May 7-9.

Ohio State Pediatric Society, Columbus, May 8.

Nebraska State Medical Society, Omaha, May 8-10.

Washington State Medical Society, Spokane, May 8-9.

Oklahoma Territory Medical Society, Oklahoma City, May 9.

Ohio State Medical Society, Columbus, May 9-11.

Kentucky State Medical Society, Georgetown, May 9-11.

Medical Association of State of Missouri, Mexico, May 15-17.

Medical Association of Montana, Butte, May 16.

Iowa State Medical Society, Des Moines, May 16-18.

Arkansas Medical Society, Jonesboro, May 14-16.

Connecticut State Medical Society, New Haven, May 23-24.

Association of Military Surgeons of the United States, New York City, May 31 to June 2.

North Dakota State Medical Society, Grand Forks, May 23-24.

Indiana State Medical Society, Anderson, May 24-25.

New Hampshire Medical Society, Concord, May 31 and June 1.

Association of Military Surgeons of the United States.—The ninth annual meeting of this Association will be held in New York City, May 31, June 1 and 2, at the New York Academy of Medicine, instead of on the dates formerly announced.

Hornellsville Medical and Surgical Association.—At a recent meeting of this Association, Hornellsville, N. Y., the following officers were elected: president, W. E. Palmer; vice-president, C. O. Green; secretary and treasurer, E. E. Webster.

Cuyahoga County Medical Society.—This Society held its annual meeting in Cleveland, Ohio, April 5. The election of officers for the ensuing year resulted as follows: president, C. F. Aldrich; first vice-president, W. E. Lower; second vice-president, J. P. Sawyer; secretary, C. C. Stuart; treasurer, L. S. Chadwick.

Fairfield County Medical Association.—The 109th annual session was held by this Association in Bridgeport, Conn., April 10. The following officers were elected: president, L. T. Day, Westport; vice-president, F. P. Clark, Danbury; clerk, George S. Ford. Delegates were also appointed for the coming meeting of the American Medical Association. The next annual meeting will be held in Bridgeport.

Pennsylvania Society for Prevention of Tuberculosis.—This Society, organized eight years ago, held its annual meeting in Philadelphia April 11. The election of officers resulted as follows: president, Guy Hinsdale; vice-presidents, H. S. Anders, J. Solis Cohen, William Moss, Moses Veale, Benjamin Lee, Talcott Williams, S. A. Knopf of New York. Dr. Lawrence F. Flick called attention to the fact that similar societies have been organized in other cities, and boards of health have also taken up the work, especially the state boards.

Marshall County Medical Society.—This Society held a meeting in Plymouth, Ind., April 12. The newly-elected officers are: president, A. C. Holtzendorff; vice-president, Jacob Kasner; secretary, N. B. Aspinall. Dr. T. A. Borton, of Plymouth, presented the Society with an antique mortar which he has had in his possession for about thirty-two years. It is the mortar brought to this country from France, by Dr. De Bruns, who was surgeon of Lafayette's first expedition. It is chiseled from a solid block of marble and shows marked signs of its great age. The Society voted to present the mortar to the Indiana State Medical Society's historical department, and it will be exhibited by the latter at the coming meeting of the American Medical Association.

Medical Association of District of Columbia.—At the meeting of this Association, held on the 3d, in Washington, D. C., the following officers were elected: president, S. S. Adams; vice-presidents, H. E. Deal and J. W. Chappelle; secretary, M. G. Motter; treasurer, Frank Leech; counsellors, R. T. Holden, G. N. Acker, W. P. Carr, H. L. E. Johnson, D. O. Leech, Clifton Mayfield, J. H. McLean, G. C. Ober and T. R. Storm; censors, W. C. Woodard, G. W. Cook and L. C. Glazebrook. Forty delegates were elected to the next meeting of the American Medical Association. A special committee, consisting of Drs. Adams, Deal and Chappelle reported resolutions of regret on the death of Dr. D. Webster Prentiss, the president of the Association, who died a few months ago, and also resolutions on the recent death of Drs. May, McWilliam and Miller, ex-presidents of the Association.

American Laryngological, Rhinological and Otological Society.

Southern Section, Louisville, Ky., March 30, 1900.

The address of welcome was delivered by Dr. S. G. Dabney, of Louisville, and responded to by Dr. L. B. Graddy, of Nashville, Tenn.

CHAIRMAN'S ADDRESS.

Dr. J. A. Stucky, Lexington, Ky., in his address, directed attention to the rapid progress made in recent years in the explorations of the cavities of the nose and throat, reviewing step by step the introduction of cocain anesthesia, illumination of cavities and the possibility of doing bloodless operations by means of suprarenal extract. The use of ointments, powders and douches is now of questionable utility, and the atomizer fiend is falling in line with the hypodermic fiend. He called attention to the fact that the laryngologist now removes the larynx and the patient not only lives but talks; the otologist chisels away portions of the skull and the patient not only lives but hears; and the rhinologist makes the nasal passages as smooth as a gun barrel. All this progress has been freely given to the public and the physician has made himself the servant of the profession; there is no longer any clash between the specialist and the general practitioner.

REMOVAL OF 107 POLYPI.

Dr. H. W. Loeb, St. Louis, Mo., presented the first paper, its title being "One Hundred and Seven Polypi Removed at One Sitting, with Remarks as to the Value of the Electrocautery Snare in Removal of Polypi." The case was that of a negro man, in the City Hospital, who had been operated on for sarcoma of the orbit, with removal of the left eye. He was very weak at the time of operation, which was completed at one sitting; 68 pieces were removed from one side and 59 from the other; eliminating 20 of these, there remained 107 well-formed polypi, which Dr. Loeb exhibited. Their weight was 77 grains, and they would about fill a two-ounce bottle. Dr. Loeb used the snare for the reason that it enabled him to do the work at one sitting, because of the freedom from hemorrhage and the rapidity with which it could be done. The snare differed from the ordinary electrocautery snare in that the wire did not pass entirely through the canula, but was more easily threaded. The patient had some recurrence but had left the hospital and had not been located.

Dr. Norval H. Pierce, of Chicago, thought the operation would have been impossible with any other form of snare because of the profuseness of hemorrhage with the cold snare in removal of tumors. He thought an improvement could be made in the shaft of the one used.

Dr. Wm. Cheatham, Louisville, had the same objection. He also expressed himself as being fearful of secondary hemorrhage after removal of tonsils and polypi with the electrocautery snare.

Dr. Thompson, Cincinnati, Ohio, mentioned a patient with two very large polypi, one being 2½ inches long and three-fourths of an inch in diameter; the other 1¼ in length and three-fourths of an inch in diameter. One feature was a constant headache for fifteen years, which never left during her waking hours, due to supraorbital neuralgia.

Dr. S. G. Dabney, Louisville, reported a case of fibroid-mucous polypus which caused constant vomiting. It was removed with the electrocautery snare, with no subsequent trouble.

Dr. J. A. Stucky mentioned a case operated on eight years before. The nose was 2½ inches at the base, turbinates absorbed, cartilaginous septum gone. The polypi were removed at three or four sittings with the cold snare and curette. The antrum was full of them and the ethmoid had to be curetted. He has operated twice since then, but during the last two years has had no reported recurrence. A 25 per cent. chromic acid solution was used the last time, with alarming gastric and nervous symptoms, with septic symptoms continuing for several days.

Dr. T. V. Fitzpatrick, Cincinnati, Ohio, was gratified to know of the ease with which so many polypi had been removed at one time with the electrocautery snare, and also commented on the extent to which inflammatory tissue will develop in the nose. Recurrence will result whenever this inflammatory tissue is left behind.

Dr. H. W. Loeb, in closing the discussion, said that the objection to the bulkiness of the shaft was not valid because of the fact that it was used only in cases where there were a large number of polypi, where the nose was naturally more capacious. It was not to be used when they were small and few in number. He thought that Dr. Cheatham was unduly afraid of secondary hemorrhage, for in eight years of almost exclusive use of the electrocautery snare he had had practically no secondary hemorrhage. He attributed much of this success to the cleanliness of his instrument, and said that with the cotton cloth-covered instrument it was impossible to prevent infection. As to the recurrence of the polypi after the use of the electrocautery snare he was not so enthusiastic as in earlier years, but still believed that its possibility was greatly lessened by the use of the electrocautery. There was a recurrence in the case under discussion, but the man had not been found and no definite report could be given.

Dr. Wm. Cheatham then exhibited his modification of the instrument referred to.

PERITONSILLAR ABSCESS.

Dr. Norval H. Pierce, Chicago, then presented a paper on "The Treatment of Peritonsillar Abscess, with Exhibition of New Instruments." The chief objects of the paper were to accentuate the proper place for incision and to present instruments to meet the indication. He said that nothing was more annoying than an unsuccessful attempt to reach the pus, and nothing more gratifying than its removal, which was nearly always curative. Early incision is not only justifiable but indicated, for the abscesses do not always rupture spontaneously. He referred to the fact that most authorities recommended incision at the point of bulging, generally at the upper anterior surface of the anterior pillar, 5 cm. from its edge. This bulging is not always due to pus, but may be from edema or from the tonsil itself. He said that spontaneous rupture takes place through the anterior pillar, and that by far the most frequent place is the fossa supratonsillaris, and this he recommends as the proper place for incision. This fossa may be best seen by pulling out the tongue, depressing its dorsum with a spatula, pushing outward the opposite corner of the mouth and inclining the head to the opposite shoulder. He described this fossa as situated between the anterior and posterior palatal arches and above the tonsils; its opening is triangular, the base formed by the tonsil and the anterior and posterior borders by the pillars of the fauces. It extends inward, upward and outward into the soft palate downward and anteriorly between the tonsil and plica triangularis and sends prolongations downward for a variable distance behind the tonsil. The abscess may begin in the upper or palatal portion or even behind the tonsil; wherever it may be, it can be best reached by incision at a point between the anterior and posterior pillars; this was the emphatic point of the paper.

Dr. H. A. Loeb opened the discussion by confessing that he had been trusting to luck in these operations, and that he had frequently been disappointed by failure to find the pus at the point of bulging. He intends to work on the fossa supratonsillaris hereafter.

Dr. Thompson suggested that the forceps might be improved so as to prevent the blade from slipping.

Dr. Wm. Cheatham also confessed to frequent disappointments and failure to find pus. He had never opened at the supratonsillar fossa. The abscesses pointing posteriorly had given him the most trouble.

Dr. Cochran, said that his patients had been unable to open the mouth to any great extent, and that he usually employs a syringe with very hot water until the parts relax. He then opens at the point of bulging, with a straight or partially curved knife.

Dr. S. G. Dabney thought these instruments much superior to those of Dr. Leland of Boston, exhibited some years ago for a similar purpose.

Dr. Cheatham mentioned a case of slow venous hemorrhage to an alarming extent.

Dr. Baltzer reported a case which bled for about a month after incision.

Dr. J. A. Stucky referred to the instrument suggested by him in a paper read before the Mississippi Valley Medical Association at Nashville. It was shaped somewhat like a corkscrew, and was for puncturing the tense sheath behind the anterior pillar and the tonsil. He agreed, however, that the supratonsillar fossa is the best place for puncture, but thought Dr. Pierce's knife should have a shorter blade. As to palpation of abscess, he was sure that there was nothing in it.

Dr. N. H. Pierce, in closing the discussion, said that he had never been troubled with hemorrhage from a peritonsillar abscess, though he had in removing tonsils. He regards the apex of the tonsil as its most important part, the part which rests in the fossa supratonsillaris, and said there would always be a recurrence unless this was removed. As to the instruments, he intends having them improved, but does not think the knife blade too long. With regard to prophylaxis, he designated oil of wintergreen as his particular hobby, two No. 1 capsules every two hours until perspiration breaks out and ringing of the ears ensues. He thought possibly some cases had been cut short. He regards palpation as a cruel and unnecessary procedure.

INSTRUMENTS.

Dr. L. B. Graddy, Nashville, Tenn., exhibited several instruments for which he claimed no special originality, but which he found very useful. One was a small canula something after that introduced by Hartman, which can be introduced through a small opening in the drum membrane in cases of long suppuration and, with the syringe attached, one can wash out retained secretions, quantities of which can be removed in this manner. He claimed there are no cases of incurable middle-ear trouble; histologically and pathologically there is no reason why, if properly cleansed, they should not heal. So long as an odor remains the remedy has not been successful. It is often difficult to tell whether retained secretions or diseased bone is the cause of the odor. With an instrument filled with powder, with an attached tube's free end in the mouth, the medicament can be applied to the roof of the middle ear or mastoid cavity.

The other instrument exhibited was a trephine for performing a radical tympano-mastoid operation, doing away with the chisel and hammer.

(To be continued.)

Cleveland Medical Society.

March, 9, 1900.

Presiding Officer—J. B. McGee, vice-president.

TUMOR OF MAXILLA.

Dr. C. A. Hamann presented a child, 11 years of age, who had come to him 2½ years previously suffering with a tumor of the right maxillary. He had removed the entire superior maxillary bone, part of the malar, and also the floor of the orbit, through an incision along the median line of the lip, the nasal fold and the lower margin of the orbit. No recurrence of the growth, which proved to be a spindle-celled sarcoma, took place. This child, however, recently presented herself again with an enlargement of the left side of the inferior maxilla, which raised some suspicion of recurrence. After waiting a few days an abscess was found in the submaxillary region and was opened and drained. The swelling of the lower jaw was due to the enlargement of the lymphatic glands of the submaxillary region, some of which are peculiar in that they lie right on the periosteum both on the inner and outer surface of the bone. He has seen several cases where enlargements of these glands, due to epithelioma of the lip, closely simulated a neoplasm of the bone, and in such cases it is always necessary to remember the situation of these glands.

Dr. J. M. Ingersoll said he had seen a similar case involving the entire superior maxilla, but the father refused to have an operation, and he has not seen the patient since.

Dr. W. T. Howard noted the fact that two cases of submaxillary abscess have been reported in which amebæ were found. As they occurred prior to the time that it was possible to cultivate them, it can not be told whether or not they belonged to the ameba coli group.

Dr. C. A. Hamann added that no plate had been inserted in the oral cavity, because the child had not yet developed permanent teeth. As soon as this can be done the asymmetry of the face will be less conspicuous.

SURGERY OF INGUINAL HERNIA.

Dr. C. B. Parker read a paper on "The Cure of Inguinal Hernia by Surgical Means." He said that not every case of hernia should be operated on. In cases of reducible hernia where a truss holds the hernia and it can be worn without discomfort, operation is unnecessary. In all other forms he advises operation. He makes a flap incision through the skin, exposing the external ring to a point one inch beyond the position of the internal abdominal ring, and, having reflected it, divides the aponeurosis of the external oblique muscle. He frees the oblique internal and transversalis muscles and Poupart's ligament for the full length of the first incision. Then he opens, empties, and draws down the sac, cuts it off and closes it with a continuous chromicised catgut suture.

If any omentum is to be removed, he ligates the individual vessels. He closes the transversalis fascia with catgut, depresses the cord against the pubes and sews the conjoined tendon to Poupart's ligament; also the pillars of the external ring. The internal oblique and transversalis muscles are to be united to Poupart's ligament with kangaroo tendon. A cuticular catgut suture completes the closure of the wound. A plaster-of-Paris splint is placed over the aseptic dressing to ensure complete rest. Conclusions: 1. The operation is nearly free from danger. 2. The closure of the internal abdominal ring is essential to success. This is accomplished by: *a*, closing the sac with a continuous suture; *b*, uniting the transversalis fascia and, *c*, closing the internal oblique and transversalis fascia the entire length of the canal; *d*, depressing the cord on the pubes, thus preventing possible pressure on or pulling on the cord with constant swelling or atrophy of the testicle.

Dr. T. C. Martin asked why a child, when the subject of acquired hernia, recovers without operation. A child's mesentery is relatively much longer than that of the adult, while the pelvis is contracted and the abdomen pendulous. This places the abdominal ring in a much more dependent position, while the long mesentery permits of such mobility as to expose the abdominal ring to increased pressure at this period of life. He thinks that the wearing of a truss by such a child does not effect a cure, although it is helpful.

Dr. R. J. Wenner asked what percentage of cases of hernia in children are cured by the wearing of a truss. He thinks that the continued pressure of one, especially if worn at night as advised by some authorities, tends to weaken the part over which it is placed rather than to strengthen it. As the internal ring is patent he does not see how pressure could ever close it. Recently surgeons have been operating on infants as young as seven months. In his experience kangaroo tendon, no matter how sterilized, has not proved to be an aseptic suture material. Several weeks after its insertion he has seen infection occurring about the sutures.

Dr. F. E. Bunts commended the author's advice to lay the cord around in its normal position in the inguinal canal. His experience with kangaroo tendon has also been unfortunate, and he has, in a number of cases, met with late suppuration occurring wherever this material has been used. He has used the kangaroo tendons of the various manufacturers, and has also tried his own methods of sterilization, but has not succeeded in obviating the unfortunate result. Considering the excellent results the author has obtained from operation even in cases of strangulated hernia, he could hardly understand his position against operating in cases in which the hernia can be retained by a truss. As the operation is practically devoid of danger, he thinks it the best thing to do in all cases.

Dr. R. J. Wenner asked what had been the essayist's experience in the treatment of indirect hernia [illegible] there [illegible] considerable separation of the fascia.

Dr. C. B. Parker, in closing, [illegible] pointed out one well-recognized cause of hernia in children, and that another is the fact that at this age the internal and external rings are nearly opposite, while as the pelvis broadens they become separated. He said that before operating he places his kangaroo tendon in pure ether, and just before using it washes it first in alcohol and then in sterile water. Stitch abscesses do occur, but he thought they were due rather to the effect of prolonged operation, or to some slip in the aseptic technique, than to the tendon. The reason he does not favor operation in all cases of hernia is that there are certain dangers inseparable from operation. Not all accidents can always be prevented. The after-effects of general anesthesia are sometimes quite serious.

TREATMENT OF LACERATED WOUNDS.

Dr. W. E. Lower read a paper embodying observations based on 2500 cases. As all lacerated wounds are more or less infected they should be treated antiseptically, as it is practically impossible to render them aseptic. The best antiseptic is corrosive sublimate. It is effective and economical. Carbolic acid, formalin, and others of the new antiseptics have not stood the test as well as the bichlorid. Iodoform and dusting-powders are not used on first dressings, as they are not antiseptic. About 50 per cent. of patients in whom iodoform is used develop a dermatitis, and this, with its disagreeable odor, should condemn it. Ointments and poultices like powders are condemned. Just as little of the lacerated tissue as possible should be cut away. It is better to dress a wound with doubtful tissue remaining than to sacrifice what might be saved. Let Nature decide what is to be lost and it may be readily removed later. The skill of a surgeon is shown in what he can save and make useful, and not in what he can destroy. If tendons or nerve-trunks are severed they should be sutured at once. Rarely is it necessary to suture a lacerated wound, especially of the fingers or scalp. The edges may be approximated by a gauze bandage, and over this a profuse dressing of gauze and cotton saturated with bichlorid is applied. Much destruction of tissue and impairment of function results from the pernicious practice of making a close approximation and suture of lacerated wounds. Approximation by adhesive strips is even worse. The first dressing is wet and the subsequent ones are moist. A wet dressing is completely saturated by this solution; a moist one is wrung dry. When laceration is near a joint, the injured part should be put to rest by splint or fixation to the body. If no trouble arises, the first dressing remains on two days. A moist one is then applied every second day. When granulations appear, boric acid may be used as a dusting powder. This has proved to be the best and most economic. Under treatment as outlined, infections seldom if ever occur. At the first sign of redness, pain or swelling, the part should be sacrificed and a wet bichlorid dressing applied every three or four hours.

Dr. W. T. Howard asked the essayist if he had, in this large series of cases, met with one of emphysematous gangrene. In the last five years he had met with 14 cases in which the gas bacillus had invaded the human body just before or after death, but he had not been able to find a single case of emphysematous gangrene in this city, although he had seen some cases in Baltimore.

Dr. J. F. Hobson emphasized the importance of primary cleansing of the injured part. As in these cases, particularly of injuries to the hand, the part is often exceedingly dirty, and he at times finds it necessary to give an anesthetic in order to completely cleanse the part. He indorsed the practice of using no suture material in bringing together the edges of a lacerated wound. In injuries to the hands conservatism is often carried too far, and parts are saved that are either of no use or are actually in the way.

Dr. F. E. Bunts said that one would scarcely think that there would be any material difference of opinion as to how to treat lacerated wounds, and yet very often he has seen well-trained physicians dressing a lacerated wound with adhesive plaster. The intelligent treatment of these minor injuries is very important. He is of the opinion that iodoform has no place whatever in a surgeon's office. He said that in the hospital, where it can be sterilized and used in this condition, it may possibly be of some service, but otherwise it is never antiseptic.

Dr. C. B. Parker emphasized the advisability of not using sutures in closing lacerated wounds, and also the importance of complete rest to the injured part. In case of a crushed hand, it is well to place the member in a splint during the period of possible infection. It also is well to fix the elbow.

Dr. A. R. Baker pointed out that there is one class of lacerated wounds in which moist antiseptic dressings should not be employed, that is, those occurring in or close to the eye. In wounds of the face or cheek, the eye, if possible, should not be covered by a bandage, but if it must be, it is well to dust boric acid powder over it, and cover it with a little gauze and cotton and a piece of oiled silk.

Dr. W. E. Lower, in closing, said that he had not met with a case of emphysematous gangrene. It is his practice in case of lacerated wounds of the hand to immerse the member in bichlorid solution and not to scrub it any more than necessary.

EPITHELIOMA OF TONSIL.

Dr. J. M. Ingersoll reported a case of primary epithelioma of the tonsil, a rare condition, about 120 authentic cases having been reported. The patient was a well-developed man, 42 years of age, whose right tonsil had been increasing in size and paining him for thirteen weeks. It was covered by a fairly firm, irregular, fungoid mass covered by mucopurulent secretion. The lymphatic glands at the angle of the jaw on the right were involved. A piece of the tumor was removed and microscopic examination showed a typical epithelioma. A radical operation was advised. The patient consulted several reputable men and then placed himself under the care of a so-called "cancer specialist," and died in his office about two months later.

Johns Hopkins Hospital Medical Society.

Baltimore, Md. April 2, 1900.

President—Dr. Henry M. Thomas.

SIMULTANEOUS PARALYSIS OF MOTHER AND CHILD DURING LABOR.

Dr. Henry M. Thomas exhibited a white woman and her 8-weeks-old infant, both suffering from paralysis due to injury received in the same labor, which was an exceedingly difficult one, lasting 1½ hours and requiring forceps. On delivery the nurse noticed that the left arm of the infant was paralyzed, and that there was a lesion of the left side of the neck. The limb remains close to the side and the hand is rotated far in. There is no deltoid movement, but the child can move fingers and grasp. The electric reactions are unchanged.

Duchenne first described this form of paralysis, which he called "obstetrical paralysis." He had had four cases from labor and had seen other similar ones in adults from injury of the neck involving the fourth and fifth cervical roots. There has been much study of the subject but nothing new added since Duchenne wrote. Three similar cases have been exhibited in the Johns Hopkins Hospital during the past winter, all in infants. The prognosis is not so bad as Duchenne believed it.

The mother is 25 years old, and of good family history, with nothing of importance to note. The forceps is said to have slipped six times before the delivery of the head. On recovery from the anesthesia there was great pain in the legs and paralysis of both. She got up in ten days and has improved, but most in the right leg. There has been no disturbance of sensation at any time. Knee reflexes are good, but there is no tendo Achilles' reflex. The woman has a peculiar wabbling gait, with dropping of the toes. There is partial reaction to degeneration. The woman is small, but the child, when born, weighed 12½ or 13 pounds. The case is believed to be unique, in its involvement of both mother and child, and in the bilateral character of the paralysis in the former. Injuries of the sacral plexus in labor are rarely referred to in the text-books, but have been noticed in France a long time. Hunermann speaks of it in the *Arkiv. f. Gyn.*, 1892, and Lloyd, in Twentieth Century Practice, gives the best description extant of it. It is known that multiple neuritis may develop after labor, but this seems to be a traumatic injury to the sacral plexus.

STONE CRUSHING.

Dr. A. T. Cabot, Boston, read a paper giving the results of stone crushing in his practice, which embraced litholapaxy, 122 cases; suprapubic lithotomy, 12; perineal lithotomy, 1 case. The average age was over 60 years, and the bladder was diseased in nearly all. He remarked that stone is rare in New England, and extremely so in children there. Of the 122 litholapaxies, 6 patients died shortly after operation. Thus there is a death-rate in those over 60, of 4 per cent., which is practically no risk. The results are about those of ovariotomy. In only 2 instances did litholapaxy have to be abandoned, and there was but one serious accident—rupture of the bladder—already fully reported. Laparotomy was done and the patient recovered. There is no danger of ripping the bladder unless the end of the instrument is turned over so that its point becomes imbedded in the wall. No serious nor lasting injury has ever been noted. There were two cases of recurrence in uric acid calculi; in one of these two operations and in the other three were done.

In one case the nucleus of the stone was a piece of catheter, and in another a piece of shoestring; neither offered any impediment to the operation. He also spoke of the ease and certainty with which the stone can be examined and measured with the instrument. The low death-rate, the short convalescence and the absence of wound and injury to the bladder give his operation advantages over lithotomy and the English surgeons in India are enthusiastic advocates of it, and they have an experience vastly greater than here. In conclusion, Dr. Cabot exhibited the instruments employed in the operation. The necessity of absolute patience and gentleness in operating was insisted on.

Dr. W. S. Halsted spoke of the skill needed in the performance of litholapaxy and of the risk of catching the bladder, and the bad results. He had contented himself, therefore, with the operation which he understood and whose results had been satisfactory—suprapubic lithotomy.

Dr. J. M. T. Finney spoke in the same strain. All his cases with one exception had been suprapubic lithotomies; the exception being a perineal lithotomy.

Dr. H. H. Young quoted from the statistics of a Russian operator, showing the satisfactory results of the suprapubic operation.

Dr. A. T. Cabot, in concluding the discussion, said the operation did not demand any unusual skill. It was not more difficult than introducing a catheter. Any surgeon who could not do it, he thought, had better seek some other employment.

ADVANTAGES OF CYSTOSCOPIC STUDY OF HYPERTROPHIED PROSTATES. REPORT OF CASES.

Dr. Hugh H. Young spoke on this subject, and especially on the results of the modified Bottini operation. His views have already been referred to in these columns. (See The Journal, Nov. 25, 1899, p. 1360.

Los Angeles County Medical Association.

Los Angeles, Cal., March 16, 1900.

CO-OPERATION OF PHYSICIANS.

Dr. Walter Lindley spoke on the co-operation of physicians in semiprofessional business matters. He said that the general idea is abroad that physicians can not get on amicably with each other, and he believes that where there is dissension between members of the profession, the cause is usually lack of intimate association and knowledge of each other. Every physician means to gain a competence for his family. To do this requires more than simply saving a man's earnings. He must also invest his savings so that they will grow. As a rule physicians are not good business men, because they have not turned their attention to business. Dr. Lindley cited the California Hospital, Los Angeles, as a good example of the successful co-operation of members of the profession in some professional business. The California Hospital Association was incorporated by twenty physicians, and now has a capital stock of $100,000. They own the hospital, a building of one hundred rooms, and the extensive grounds surrounding it. The advantages of this co-operation are that the profession of Los Angeles have a hospital that is run to suit them on the most modern progressive lines, while at the same time they have an excellent place for investing their surplus funds, and this investment has steadily paid a good substantial interest. It has also furthered the association of the profession in this hospital work, and has brought about a far better feeling that ever existed before in the profession of this city, and there has never been a particle of friction or dissatisfaction. An average of twenty-five physicians daily see patients there and, as said before, everything has moved on with perfect amity.

Another corporation of physicians is just being organized to establish a health resort in the pine forests of the mountains 100 miles from Los Angeles. This company is organizing with $250,000 capital. It has bought a tract of land 1½ miles long and one-half mile wide, with running streams, and springs and forests of pine and oak. Within a year will be established on this tract, one mile apart, two institutions, one a central pavilion for dining room, kitchen and places of entertainment, surrounded by cottages, each containing three rooms and a bath—this will be for tubercular patients. One mile away there will be a building erected more in the style of a general sanatorium, which will be a general resort for persons who desire to go to the mountains for rest and pleasure. The altitude of this California mountain resort is 5120 feet. Thirty physicians are furnishing the capital for this institution and they propose to have a place here in the pine forests of California to which members of the profession, both East and West, can send their patients with confidence.

EXTRAUTERINE PREGNANCY.

Dr. E. R. Smith reported a case of extrauterine pregnancy, exhibiting a specimen, the special point of interest being that he had operated on the patient about nine months previously for the same condition on the other side.

Philadelphia County Medical Society.

March 14, 1900.

President—Dr. John H. Musser.

HANGING.

Dr. E. W. Holmes read a paper on the anatomy of hanging, comparing hanging and strangulation, with a description of the anatomic lesions produced by hanging, a consideration of the methods of judicial hangings and an analysis of the sensations of those hanged and resuscitated. In the majority of legal executions of this nature death does not occur from a fractured vertebra, but from strangulation. Of 368 suicides, 189 were by hanging, and in England, within five years, 2500 persons found death in this way. Regarding the sensations produced, first there is a flash of light before the eyes, a hissing sound in the ears, bulging of the eyes, a sense of weight on the feet, and then a sense of suffocation followed by unconsciousness. The changes produced by hanging seem to be: 1, asphyxiation; 2, cerebral congestion; 3, coma; 4, nerve paralysis; 5, shock and cerebral concussion. In the majority of hangings death usually occurs in from six to seven minutes, but the body is generally left suspended by the neck for half an hour. In four-fifths the noose was located above the larynx, and one-fifth below this.

The post-mortem changes produced are: presence of a brush-burn, ecchymosis, tearing through of thyroid or cricoids, and sometimes fracture of the intervertebral discs and odontoid process. The vessels of the brain are usually congested, and frequently there is an extravasation of blood. It has been found in some cases, in which a person has been hanged and resuscitated, that he suffers from aphonia, and also aphasia. The lungs are usually congested or edematous, and there is an increase of pleural and pericardial effusion. Involuntary action of the bladder and rectum usually occurs. The majority of legal hangings caused a painless death.

Dr. Solomon Solis Cohen, the retiring president, delivered an address on "Progress in Therapeutics."

Experimental Treatment of Tuberculosis.—Richet has announced (Paris Soc. de Biol.) that his experiences show that all medicinal substances arrest development of tuberculosis. Experiments with sodium chlorid, sodium urate, turpentin, iodin, etc., showed that animals thus treated always survived longer than the untreated. suggesting that the development of the tuberculous toxins is checked by the presence of any medicinal substance in the body.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
61 MARKET STREET, - CHICAGO.

SATURDAY, APRIL 21, 1900.

RELATION OF CHRONIC MYOCARDITIS TO SCLEROSIS OF CORONARY ARTERIES AND AORTA.

The causes and the genesis of interstitial, non-suppurative myocarditis have been the subject of much discussion and investigation during recent years. The relations of myocardial scars to coronary sclerosis; of more acute, necrotic myocardial foci to occlusion of the coronary arteries; the rôle of syphilis, of rheumatism, and of the acute infectious diseases in the development of myocarditis; and the influence of passive congestion in interstitial changes in the heart muscle have all been considered from various points of view. In order to throw new light on the relations of these so important changes in the heart wall to chronic changes in the coronary arteries, Fujinami[1] undertook a study of a series of hearts. His investigations were carried out under v. Recklinhausen, in the pathologic institute at Strassburg, and it is the purpose of the following lines to give a comprehensive summary of the results obtained and the conclusions reached.

Fujinami studied carefully the gross appearances of the coronary arteries, of the beginning of the aorta whence these vessels take their origin, and of the coronary veins. The anatomic relationship of myocarditic foci to diseased coronary branches was carefully investigated microscopically. In all 52 cases were examined, the majority being plain instances of chronic, fibrous myocarditis, cases of syphilis and other infectious diseases being excluded as far as possible. Many cases were met with in which the changes were first recognized under the microscope. As a rule the changes were observed to be especially well marked either in the lower half of the anterior wall of the left ventricle or in the upper half of the posterior wall of the same part of the heart. Changes were also frequently found in the interventricular septum and in the papillary muscles. The cases are divided into three categories: 1. Advanced fibrous myocarditis; 2. microscopically demonstrable fibrous myocarditis; 3. acute, local, parenchymatous changes.

In the larger percentage of those of advanced fibrous changes there was a marked coronary arteriosclerosis; in a few there were marked sclerotic changes in the beginning of the aorta and but slight ones in the coronaries. It is noteworthy that in no case were there found marked sclerotic changes in both these places at the same time. In the majority the resulting narrowing of the coronary arteries did not correspond accurately to the fibrous areas. And yet the sclerosis of the coronary arteries was usually so diffusely developed that the nutrition of the heart's muscle surely suffered on that account. In the cases in which the beginning of the aorta was markedly affected there were such slight changes in the coronaries that the aortic disease is regarded as largely responsible for the myocardial changes. In no case in this group were there found abnormal contents—thrombi or emboli—in the coronary arteries. Naturally, negative findings have no absolute value in such processes as those now considered, because the changes were advanced to the extent that fibrous tissue had developed, but the fact remains that nothing was discovered directly favoring the claim that the myocarditis was the result of infection.

Sclerosis of the beginning of the aorta and of the coronary arteries appeared to play the same rôle in the group in which the changes were microscopic as in the group of coarser lesions. In general, the arteriosclerosis was less marked in the hearts with microscopic changes. In many cases the muscle fibers appeared to be quite intact, though often thinned between, and in the older and younger foci of connective-tissue proliferation. Instances were observed also of distinctly primary muscular degeneration followed by secondary fibrosis. In the smallest of such foci but one or two muscle fibers were involved for a short distance. The degenerated muscle eventually either disappears wholly or becomes calcified. Fujinami believes that in such cases some kind of poison produces the muscle degeneration, either directly or indirectly. Constant and direct relationship between the fibrous foci and the foci of coronary sclerosis could not be demonstrated in this group.

But in the third group, that of local parenchymatous changes, the influence of the vascular disease was found to be more directly demonstrable than in either of the preceding. In all cases the focus of degeneration or necrosis corresponded accurately to the narrowed vessel, no matter whether the narrowing or occlusion was caused by thickening of the wall, by thrombosis or by embolism. This observation tallies closely with the current teachings in regard to myomalacia cordis and with the results obtained by Baumgarten.[2]

Several cases of partial aneurysm of the heart occurred in Fujinami's series and in all these there was advanced sclerosis of the coronary vessels, the areas of greatest involvement corresponding to the location of the aneurysm. From the observations on these cases it seems correct to conclude that the heart wall suffered in nutrition and consequently lost its resistance to the blood-pressure on account of sclerotic narrowing of the arteries. This relationship is brought out very clearly by a thorough study of a heart the seat of no less than three aneurysmal dilatations of varying ages and stages in development.

Fujinami's material includes also three cases of rupture of the heart. In two there was hardly any doubt as to the relationship between the coronary disease and the ruptures.

Myocardial segmentation was frequently observed in this series. It was absent in only a small number of cases. The dissociated muscle fibers were always situated a distance from the fibrous areas. The fibers within the scars were not fragmented, but more or less pressed apart and atrophic. Fujinami has seen, however, some microscopic appearances in the fibers similar to the sarcolytic degeneration described recently by McCallum,[3] an interesting process that probably plays a greater rôle in fibrous myocarditis than now generally recognized.

---

[1] Virchow's Archiv, 1900, 159, 447.

[2] The Journal, Oct. 7, 1899, p. 919.

The frequency of myocardial segmentation in fibrous myocarditis has already been established by Hektoen[4] and by Streickeisen.[5] The first-named author found that in 59 cases with hypertrophy of the heart and more or less chronic fibrous changes, dissociation of the myocardium was present in about 75 per cent.

The following facts stand out pre-eminently as the result of and in connection with Fujinami's work: 1. Circumscribed areas of parenchymatous myocardial changes correspond closely with arterial narrowing and occlusion. 2. Fibrous myocarditis and arteriosclerosis of the coronary arteries and the root of the aorta constitute a very common combination. 3. In the majority of the cases the myocardial scars do not correspond exactly in location to the arterial narrowing. 4. Narrowing of a coronary branch may cause fibrous changes indirectly by so interfering with the nourishment of myocardial areas that muscular disintegration and secondary fibrous changes take place. The vascular changes may be situated in the larger coronary branches, at the origin of the coronary arteries, or in the beginning of the aorta. 5. Primary, interstitial, non-suppurative myocarditis undoubtedly occurs. Fibrous myocarditis consequently represents the final stage of various processes. It follows that in many cases arterial thickening may be secondary to myocardial fibrosis, just as is often the case in indurative processes in other organs. 6. The frequency of segmentation of the myocardium in coronary sclerosis and fibrous myocarditis suggests that this combination is not merely accidental, but space does not permit further discussion of this highly interesting question at this time.

AUTOINTOXICATION.

The humoral pathology of an earlier day has been replaced by the current doctrine of intoxication. Instead of humors arising within, or introduced into, the body in various mysterious ways we have become cognizant, in more or less intimate degree of toxic processes due to poisons derived from without, such as alcohol, lead, mercury, decomposed food, or generated within, as a result of infectious diseases, or in consequence of deranged metabolism, as uremia, gout, diabetes. The evidence in this connection, however, is, it must be admitted, circumstantial rather than direct, and some of its deficiencies are pointed out in a thoughtful critique by Ewald.[1] He defines autointoxication as the poisoning of the body by normal or abnormal digestive or metabolic products. It is conceivable that these may be generated within the digestive tract, or within the tissues themselves.

Gastrointestinal autointoxication may result from the absorption of products normal to the digestive process, but generated in excess, or from that of wholly abnormal substances. Interstitial autointoxication may result from the retention of excrementitious products of cellular and metabolic activity. The liver stands as a guard to intercept or to neutralize toxic substances brought to it especially by the portal blood, but if it be deficient in activity or if the poisons brought to it be excessive in amount autointoxication may result.

When the toxic substances, whatever their source, have entered the general circulation, their effects may possibly be neutralized by the development of antitoxins, or they may be quickly eliminated by the emunctories. Under the last-named conditions the urine, the sweat and the expired air might be expected to exhibit poisonous properties, although the demonstration would be surrounded by numerous difficulties.

A number of acute and chronic digestive disturbances are attended with symptoms of irritation or depression of the nervous system, such as headache, irritability, fatigue, disinclination to activity, hypochondriasis, vertigo and stupor, which have been attributed to the absorption of toxic substances from the gastrointestinal tract. Various cutaneous affections, such as urticaria, acne, pruritus, purpura, as well as dyspeptic asthma, periodic vomiting, tetany, cystinuria, the anemia and the toxic symptoms attending helminthiasis, pernicious anemia, and chlorosis have been considered results of the same cause.

Interstitial autointoxication includes uremic, diabetic and carcinomatous coma, exophthalmic goiter, Addison's disease, pancreatic diabetes, myxedema, cachexia strumipriva, cretinism, leukemia, pseudoleukemia, eclampsia and some psychoses. With regard to certain other conditions, such as migraine, some forms of neuritis, hemorrhagic purpura, polymyositis and gout, there has been doubt as to whether they should be attributed to intestinal or to interstitial autointoxication. With equal propriety acetonuria, oxaluria, diabetes, icterus gravis, and acute yellow atrophy of the liver could be considered autointoxications. Some of the foregoing conditions, however, attend various diseases, while others do not throughout their course present the clinical picture of intoxication, but only at times, though these were better described as autointoxications in the course of the diseases named.

Two of the most conspicuous examples of autointoxication consist in poisoning with carbon dioxid, from interference with the respiration, and the symptoms resulting from suppression of transpiration from the skin, as after severe burns, the application of varnish, universal psoriasis and ichthyosis. In both of these conditions the interference with gaseous interchange is sufficient to explain the toxic manifestations. The evidence is, however, not so convincing as to the various other modes of autointoxication, in spite of the elaborate chemical and physiologic examinations of the urine, and studies of the blood, the sweat and contents of the gastrointestinal tract. It would, thus, appear that although clinical experience supports the hypothesis of autointoxication in connection with a number of morbid conditions, the unequivocal demonstration of the process has not been made on any considerable scale.

---

[3] Jour. of Exp. Med., 1899, iv

[4] Am. Jour. of Med. Sci., November, 1897.

[5] Ziegler's Beiträge, 1899, xxvi.

[1] Berliner Klin. Woch., February 12 and 19.

CHRONIC GLANDERS.

Roman von Baracz reviews the subject of chronic glanders in man on the basis of a remarkable instance of this infection as the test. The disease developed rather acutely, and so soon after the extraction of a tooth by a shoemaker that this little operation apparently had something to do with the infection, especially as there was no opportunity known whereby it might have resulted from contact with affected horses or with human cases. The instance is truly remarkable on account of the duration—fifteen years, during which the disease remained wholly latent for five years at one time. At first the process was confined to the face and the neck. After being latent for five years it broke out again with increased severity in the nose; soon characteristic foci appeared on the face and the neck, the submaxillary and cervical lymph glands being also involved—an unusual thing in chronic glanders, in which lymphatic involvement rarely occurs. Toward the end of life foci appeared on the trunk and extremities, accompanied by an irregularly intermittent fever. Death occurred in spite of repeated operations; internal remedies had no effect on the course of the disease. The diagnosis was fully controlled by bacteriologic examinations and experimental inoculations. At no time could glanders bacilli be discovered in the urine or in the blood in which they have been demonstrated in acute glanders. There was no atrophy.

Usually chronic glanders ends in recovery after a period of 1 to 6 years. In the case reported by Bayard Holmes,[1] which followed an infection of the index finger of a young man who at the time was caring for horses suffering from glanders, recurring explosive eruptions of foci occurred in various parts of the body; in all, fourteen distinct points of infection developed, perfect healing resulting after twenty different operations in two years. In v. Baracz's case there was also a tendency to recurring crops of lesions, especially in the spring and autumn.

Von Baracz also mentions the details of two fatal cases of glanders in two Polish physicians, that gave rise to much discussion in Polish medical circles. The first case was one of rather chronic course—eight months—the source of the infection being not clear. The second physician operated on the knee of the first and wounded a finger; an acute glanders, associated with a mixed pyogenic infection, developed and ended fatally.

Fortunately glanders in man is a rare disease. As is apparent, the ravages of this infection may be severe and extensive. The two or three diseases with which glanders is likely to be confounded when it does develop in man, are syphilis, tuberculosis and actinomycosis; in the acute form, septicopyemia especially has to be also considered. The decisive diagnosis of glanders rests on the bacteriologic demonstration of the bacilli and on experimental inoculation of animals, especially the guinea-pig, in which the development of orchitis after intraperitoneal injection with glanders bacilli constitutes a valuable diagnostic feature.

RELATIONS OF PHARMACY TO THE MEDICAL PROFESSION.

Realizing the confusion that exists relative to the ethical status of the various medicinal preparations, especially with reference to their use by the medical profession and their appearance in the advertising pages of The Journal, and being also impressed with the desirability, if not necessity, of subjecting the entire question to a careful scrutiny in order to reach an intelligent conclusion as to what articles are not in accord with the ethics of medicine and pharmacy, The Journal this week begins a series of papers on the relations of pharmacy and medicine. It is proposed to make a careful survey of the entire field, and to present the various phases of the many interests involved, including those of the advertiser and the readers of The Journal. What medicinal preparations shall be admitted to, and what debarred from, the advertising pages of a scientific medical journal is a vexed question, but the ever-increasing number of preparations—many of which are secret nostrums—that are being foisted on the profession, makes it expedient that an answer be found if it is possible to find one. That the question is one full of interest to many is manifest by the large number of personal communications we have received on the subject since the appearance in The Journal, three weeks ago, of the editorial, "What Shall We Class as Ethical Preparations."

TREATMENT BY MUSIC.

It is said that certain prominent physicians in the East are organizing a movement to secure treatment by music in hospitals. This seems to us a refinement which we have not yet, as a race, fully reached. Music undoubtedly has certain effects on the nervous system, but so does any other kind of monotonous or rhythmic noise. Insomnia, for example, can be relieved by cannonading, if the subject is used to that method, and equally unmusical though less intense sounds are naturally still more effective. How far more elaborate sound combinations can produce a therapeutic effect, except through the action of the mind by suggestion, seems to us doubtful. The mental action may be considerable, particularly in those who have a natural or cultivated musical taste, but any physical theory of therapeutic musical vibrations affecting the system in various morbid conditions is a little finely drawn at the present time. At least it has not been worked out and the laws developed, so whatever is done will have to be, at this time, altogether empirical. Music is a method of sensual gratification and its effects vary largely according to the education as well as the original sensory gifts of the individual. It has long been used as an adjunct to treatment of the insane, but only as a diversion; no special therapeutic value has been accepted as a result of general experience with its use. It may at times soothe, or it may excite, but that is apparently the limit of any effects that can be called remedial.

---

[1] The Journal, 1893, xxi, p. 235.

"CHRISTIAN SCIENCE" ABSURDITIES.

Those who have read Mr. Purrington's book, "Christian Science, an Exposition," noticed in this week's JOURNAL, will remember that he addressed to Mr. Carol Norton, representing the "Christian Scientists," certain questions. These the latter preferred to "shelve" at the time—they referred to Mrs. Eddy's inconsistency in claiming that her cult "removed the possibility of human and personal contention," and then resorting to the courts, and to what she or Mr. Norton would do in certain contingencies, e. g., having their heads injured by a brickbat, sitting alongside a case of confluent smallpox, etc. These, Mr. Norton, in a recent communication to the *New York Sun,* calls "wholly irrelevant," and designed to make the whole subject—"Christian Science"—ridiculous. As to their irrelevancy, we are not metaphysically minded enough to see it, nor can we see that they were designed to ridicule "Christian Science." There was no design about it; the fact that they do make it ridiculous is only a sort of inevitable accident, like the effect of the law of gravitation, for example. In the same communication Mr. Norton refers to a list of persons "of professional standing, honesty, and unquestionable integrity" who will vouch for the details of certain "Christian Science" cures. The "professional standing" of one of these, Mr. Carol Norton, is undoubtedly high among the C. S. Ds., but he is hardly a satisfactory reference to those who are not fixed in the faith in "Mother" Eddy. The names of the three M.Ds. he refers to are not to be found in any physicians' directory in our possession—a curious coincidence. As to the others, the subjects of the alleged cures and a couple of unknown parties, anybody can put his own value on them. On the whole it is perhaps not so very remarkable that the confirmation offered by Mr. Norton "made little impression" on Mr. Purrington.

A NEW SYMPTOM OF CEREBELLAR DISEASE IN EARLY LIFE.

The recognition of disease-conditions in children is often rendered exceedingly difficult because the diagnosis must be based almost wholly on evidence of an objective character, and while this is sometimes more trustworthy than are purely subjective symptoms, it is by no means always satisfactorily elicited. The difficulty is often enhanced in the discrimination of disease of the nervous system, as children respond so readily with nervous manifestations to various forms of irritation, while on the other hand, from developmental and physical reasons, certain symptoms that are distinctive in the adult are wanting in the child. Thus cerebellar disease is attended especially with derangement of co-ordination, as exhibited in unsteadiness in standing and in walking, with vertigo and vomiting and often also with nystagmus; but co-ordination is naturally deficient in the young child and vomiting is common from other causes. An additional symptom of cerebellar disease in early life is described by Hahn.[1] This consists in constant rotation of the head from side to side. The patient whose case is reported was 4 months old and was brought by her tuberculous grandmother because of cough and vomiting for a month and rotatory movement of the head for two weeks. The neck was rigid and the head retracted. On percussion dulness was found at the upper part of the right chest anteriorly and, on auscultation, rough breathing. The liver was enlarged. The child was seized with a general convulsion while being prepared for lumbar puncture. The latter yielded 3 c.c. of clear fluid in which no tubercle bacilli could be found. On account of the disease in the grandmother, and the physical signs presented by the chest, a diagnosis of cerebral tubercle was made, and from the presence of the rotatory movement of the head the growth was localized in the cerebellum. Death resulting, a tubercle as large as a pea was found in the middle of the vermis, with circumscribed tuberculous meningitis at the base of the brain between the medulla and the cerebellum, in the form of a moderate number of submiliary nodules. It is pointed out that while rotatory movements of the head may not be rare in association with tuberculous meningitis, they have not been thoroughly described, nor do they seem to have been observed in connection with tubercle of the cerebellum, which is relatively common in children.

ARTIFICIAL PARTHENOGENESIS.

Some months ago the newspapers contained various sensational accounts of certain experiments by Prof. Jacques Loeb, of the University of Chicago, in regard to what they called his new theory of the reproduction of animals and of the origin of life. The investigator himself was quoted as saying to a reporter that by them "we have drawn a great step nearer to the chemical theory of life and may already see ahead of us the day when a scientist experimenting with chemicals in a test tube, may see them unite and form a substance which shall live and move and reproduce itself." Prof. A. B. Conklin,[2] of the University of Pennsylvania, reviews the subject and gently criticizes Loeb's rather premature conclusion that we have in his experiments an instance of "fertilization" by the ions of the magnesium chlorid solution in which he had temporarily placed the egg. It is in fact difficult to see how that experimenter, supposing that he had any knowledge of the facts of normal parthenogenesis, could have jumped to any such conclusion, unless it be that he was overanxious to find a chemical basis of vitality. The facts certainly do not justify him in this or in his other deductions that we can in this way, some time in the future, produce life from inorganic chemicals in a test-tube. The evidence that we will ever reach that point of biologic progress is as yet not forthcoming, and there are no facts that justify Professor Loeb or any one else in the assumption that we will. The most we can say is that, according to our present knowledge, the reproductive cells both of the ovum, and of the spermatozoon as shown by Delage, are capable of parthenogenetic development to a certain extent under specially favorable conditions, but that sexual reproduction is apparently one method by which Nature secures the needed variation and adaptation to external environment for the evolution and preservation of life. Artificial parthenogenesis, such as that described by Loeb, is not confined to the sea-urchins. Morgan has also produced it in Nemertians and Gephyreans; it shows perhaps a common, natural reversion tendency of many of the lower organisms. We do not know all the conditions under which this occurs; they are not likely to all be such simple chemical ones as those produced by Loeb in his experiments. The possibility he mentions of asexual generation in the higher forms of life has long been suggested by some well-known pathologic conditions which have lately more than ever begun to be accounted for in that way, but it is a long step from the teratoma to the fetus. The chemical fertilization of Loeb is a crude idea, apparently based on misconception of the facts, and every prognostication of the discovery of an ultimate chemical origin of life is pure assumption. When we have traced the earliest cell differentiation back to the earliest cell movements, and venture to inquire, as Conklin says, "into the cause of this cause we find ourselves in the position of those Indian cosmogonists, who having decided that the earth rests upon twelve oxen and that these stand upon a turtle, left the latter without any support."

---

[1] Archiv. f. Kinderheilkunde, B. xxviii, H. 3 u. 4, p. 187.

[2] University Med. Mag., March.

SUCCESSFUL RESECTION OF THE INTESTINE FOR MULTIPLE TUBERCULOUS STENOSIS.[1]

In 1897 Lennander removed about 50 cm. of the ileum, with the corresponding mesenteric glands, for multiple tuberculous stenoses. The proximal end of the bowel was sewed together and the distal end inserted, by means of Murphy's button, just above the closed upper end. Recovery ensued, but the button failed to pass out: it could be felt just above the posterior right vaginal vault. Some months later a second operation was made for removal of the button, which was found in a blind diverticulum formed at the insertion of one end of the resected intestine into the other. The diverticulum and the button were removed. There was absolutely no tuberculosis in the abdominal cavity; nor were there any evidences of tuberculosis elsewhere, hence it may be concluded that there had been a primary tuberculosis of the ileum and its mesenteric glands. Krogius describes a somewhat similar case occurring in a woman of 33 years, who for three months had presented symptoms of intestinal stenosis. Two movable swellings and one fixed, the latter in the ileocecal region, could be felt. A diagnosis of intestinal tuberculosis was made. Laparotomy disclosed two enlargements of ileum which were removed by resection and circular suture; the third swelling involved the lower part of the ileum, the cecum, and the adjacent ascending colon; this portion was also resected, and the ends united by means of Murphy's button. Recovery ensued promptly. Two months later symptoms of disease of the gall-bladder appeared and, by cholecystotomy, 40 gall-stones were removed. The extirpated pieces of intestine showed a localized, hyperplastic form of tuberculosis with great narrowing of the intestinal lumen.

TREATMENT OF TUBERCULOSIS WITH CINNAMIC ACID.

According to current conceptions on the subject of tuberculosis, any plan of treatment, to be successful, must be directed to the improvement of the general nutrition, to the stimulation of those forces, as yet unknown, capable of repelling the invasion and of resisting the activity of the tubercle bacillus, of neutralizing its effects and of repairing the injury it has accomplished. The mere presence of this bacillus does not constitute the disease, which rather represents the reaction between the micro-organism and the tissues that have become susceptible to its attack by reason of depraved nutrition or other expression of impaired immunity. Many remedies have been proposed for the treatment of tuberculosis, but none has a specific influence, if we except tuberculin, and this has proved itself a two-edged sword. Among the drugs that have been recommended in the treatment of tuberculosis and from which encouraging results have been reported is cinnamic acid. This remedy was first advocated for the purpose named, by Landerer, some eleven years ago, on the conception that it antagonizes the development of tuberculosis by causing reactive inflammation about the unvascularized tubercles. Subsequently its action was attributed to its chemotactic and leucocytotic properties, and finally it was considered a natural protective substance. Whatever the mode of action of cinnamic acid, it has been contended that it is capable of curing experimental tuberculosis in guinea-pigs, although it is admitted that from this it can not at once be concluded that a similar result will be brought about in man. A large number of observers have employed the remedy clinically, and have attributed great therapeutic activity to it. Fraenkel[1] has, however, subjected the published statistics to a critical analysis as an outcome of which he expresses the opinion that the results are really no better than those that follow other methods of treatment. Further, he reports the results obtained in the treatment of ten cases of pulmonary tuberculosis, two of laryngeal tuberculosis, and five of lupus by means of cinnamic acid, at the clinic of Professor Erb in Heidelberg. In all but two cases the medicament was injected into a vein of the forearm, beginning with a dose of 1 mg. and increasing by that amount every second day until a dose of 10 mg. was reached, then increasing 2.5 mg. but never exceeding 25 mg. The results, however, were not satisfactory; nor were those obtained in experimental observations on animals.

Enteric fever among the Boer prisoners is causing anxiety among British officials at Cape Town and Simons Town, S. A. According to *The Lancet,* April 7, deaths at the latter point were occurring daily, and the outbreak was attributed to the "terribly insanitary conditions" under which they had been living and the hardships.

---

[1] Nord. Med. Arkiv, 1899, x.

[1] Deutsches Archiv f. Klin. Med., B. lxv, H. 5 u. 6, p. 480.

Medical News.

According to the press dispatches, Congressman Boutelle, of Maine, who has been in a sanatorium for several months, was renominated on the statement of his physician that such action might effect a cure, whereas failure to secure a renomination would probably kill him.

The Philadelphia County Medical Society intends to organize a bureau of information for the use of members of the American Medical Association who pass through Philadelphia en route to and from Atlantic City. The College of Physicians will also extend its courtesies to the members of the Association and has ordered that the library and museum be opened to them.

The Army Ration Increased.—Troops serving in the recently organized Department of Alaska have had their allowance of bacon, vegetables and sugar considerably increased, the increase being considered necessary on account of the severity of the climate. The change was made by the President, under the authority vested in him by Section 1146, Revised Statutes. Bacon is increased from 12 to 16 ounces; fresh vegetables from 1 pound to 1½ pounds, and sugar from 15 to 20 pounds per 100 rations. General Orders, No. 46, Headquarters of the Army, April 7, 1900, makes formal announcement of the increase.

Progress of the Plague.—According to the *British Medical Journal,* April 7, the disease seems to be practically in abeyance in Hongkong, and the latest reports show that during the week ending February 24 no fresh cases occurred and there was but one death. For the week ending March 29, in Mauritius, there were 6 new cases and 5 deaths. A correspondent writing from Sydney, N. S. W., February 27, reports another case there that week. The present plague epidemic in Bombay shows no signs of abeyance, and during the second week of March it caused 736 deaths. In Calcutta, from March 8 to 14, the daily reports of new cases were, respectively, 89, 129, 118, 111, 100, 127, and 116. The deaths from the same causes were 78, 105, 110, 99, 91, 107, and 93, on these dates. On March 15, 16, and 17 fully 6000 natives left the city on one railway line alone. The greatest mortality prevails in Bengal province outside the city, Patna accounting for 1581 deaths for the week ending March 17.

ILLINOIS.

ROCK ISLAND HOSPITAL.

Plans are being prepared for the New Rock Island Hospital. Twenty-five thousand dollars has been subscribed and a location in the central portion of the city has been offered. At the annual meeting of the Rockford Hospital Association the announcement was made of the gift of $1000 from Mr. Wm. Halley of Owen. This amount will be added to the permanent fund of the hospital.

REGULATION OF MEDICAL PRACTICE.

The secretary of the Illinois State Medical Society has sent out a circular letter to the members of the profession in Illinois as follows:

Dear Doctor: You have received a notice through the columns of the state society's journal to be present at a meeting of officers of the various local societies of the state at Springfield, a day in advance of the state society's meeting.

The activity of those opposed to a proper regulation of medical practice makes it more imperative than ever that the better elements of the profession bestir themselves. What is needed is more thorough organization, without which all attempts at successful medical legislation must fall short of the demands of the profession.

The time allotted to the business sessions of the state society is too limited to give this subject the consideration its importance demands, hence it is deemed advisable to have this preliminary meeting, when the subject can be fully discussed and, as a result, some well-digested plan submitted to the regular session of the society. A large and representative gathering of local society members is necessary if the object sought is to be attained.

Please notify me of your acceptance of this invitation. Remember the date, May 14, 1:30 p.m., in the Christian Church, Springfield, Ill.

Yours fraternally,
J. W. Pettit, M.D.,
Chairman Committee on Medical Legislation.

Chicago.

Dr. G. Frank Lydston has returned from a month's outing in California.

Dr. Otto W. Lewke is suffering from blood poisoning as the result of an accidental wound received while operating.

A meeting of the Illinois State Board of Health was held here April 10-13, for the examination of candidates for license to practice medicine in the state.

At the annual meeting of the Ladies' Aid Society of the Presbyterian Hospital, a plan for building a maternity was discussed. The sum of $40,000 was conditionally promised for this purpose. When completed the Hospital will cost $100,000.

The medical inspectors of schools made 4138 examinations during the past week; 251 pupils were excluded from school. The inspectors will be withdrawn in a few days, a few being retained for emergency duty. Service will be resumed with the opening of schools in September.

COLLEGE OF PHYSICIANS AND SURGEONS.

The eighteenth annual commencement of this college, the medical department of the University of Illinois, was held April 18. The graduating class numbered 136. The doctorate address was delivered by Dr. Victor C. Vaughan, dean of the school of medicine of the University of Michigan. The ad eundem degree was conferred on Dr. George F. Butler, and honorary degrees on Dr. V. C. Vaughan, Ann Arbor, Mich., and Drs. Wm. E. Quine and J. B. Murphy, of Chicago.

EXAMINATION FOR EXTERNES.

A competitive examination for three positions as externe, beginning May 1, 1900, wil be held at the Michael Reese Hospital April 26, 27 and 28, at 2 and 7 p.m. The examination will be both written and oral, on internal medicine and physiology, surgery and anatomy, gynecology, obstetrics, children's and skin diseases. Applicants must present their class gradings of the past three years, and certificates of good moral character, on or before April 22, to the Board of Directors of the Michael Reese Hospital. The term of externeship is for eight months. Satisfactory service during the externeship entitles the candidate to an appointment as interne for one year, beginning Sept. 1, 1900, January 1, 1901, and May 1, 1901.

NEW YORK.

At its annual meeting, the State Board of Charities unanimously elected William Rinelander Stewart, New York City, president, for the eighth consecutive term, and Enoch V. Stoddard, Rochester, vice-president, for the sixth consecutive term.

By the will of the late James D. Sarven, of Tarrytown, Harriet L. Burgess, a nurse in the Tarrytown Hospital, is bequeathed 200 shares of railroad stock for her constant attendance on the deceased and for her help in keeping his books.

CONCERNING THE INSANE.

A bill, just signed by Governor Roosevelt, amends the insanity law in such a way as to make a number of changes in the powers and duties of the State Lunacy Commission. That body is permitted to endeavor to secure legislation from Congress looking toward the more effectual removal of alien and non-resident insane, and is allowed to expend a reasonable sum therefor. The law provides that the Commission, or a majority of its members, shall visit every state hospital at least twice a year. With the approval of the Commission officers or [illegible] the state hospitals may live outside of such [illegible] salaries being commuted accordingly. All [illegible] pitals must be bought, as far as practicable, facturers or their immediate agents, and contracts must be let to the lowest responsible bidders.

New York City.

YELLOW FEVER IN PORT.

Two yellow fever ships have come to the quarantine station of this port within the past few days. On the first there had been one fatal case, a few days after leaving Manaos, but as more than five days had elapsed since that occurrence, the ship was disinfected and allowed to come into port at once. The master of the other ship had died of yellow fever at Rio Janeiro, and on the voyage here the chief officer had been attacked, but had recovered.

SUPPOSED RABIES

An employee of the park department died last week at the St. Vincent's Hospital, apparently from rabies. He had been bitten on the right cheek by a strange dog, on March 9, and, after the wound had received surgical treatment for a few days at the hospital, he was pronounced cured. On April 10 he became ill, and was taken to the Pasteur Institute, where his case was considered hopeless. As the dog had been shot almost immediately after the man had received the bite, there was no positive proof that the disease was really rabies.

AN INCUBATOR INFANT'S EXPERIENCE.

An unusual feature of a recent fire in a Harlem apartment house was the rescue of a premature infant which was being reared in an incubator. A hurried attempt to drag out the incubator proved a failure, because the latter was too large to be easily brought through the doorway into the elevator. The nurses hesitated to take the tender morsel of humanity out of its box, but a physician who happened to live near by finally decided to do this, and the child was wrapped up in a blanket and carried through the smoke. The mother meanwhile implored the firemen to save the incubator, for this, to her mind, meant the saving of the life of her infant. After the fire had been partially controlled, two men succeded in saving the incubator. The little one was apparently none the worse for this latest addition to its short but checkered experience.

PRACTICE BY MIDWIVES.

The recent legislature passed a bill requiring licensing of midwives in this city, and providing that no person should practice midwifery without having passed a satisfactory examination before a board of five physicians appointed for the purpose by the health department. The bill was given a hearing by the mayor, on the 13th. The Midwives' Association, about fifty members being present, requested that it should be disapproved because one of its sections requires that midwives who have already been in practice must undergo the examination as well as new applicants for license. Under the present laws the Board of Health is compelled to issue a license to any person who holds a diploma from an incorporated college, and it is well known that such diplomas can be purchased by those who have no training. The Gerry Society is heartily in favor of the bill, on account of the large number of children who are rendered blind through the criminal carelessness and ignorance of midwives.

HOSPITAL APPOINTMENTS.

As a result of the resignation and retirement of Dr. Charles McBurney from the position of chief surgeon of the Roosevelt Hospital, previously noted in these columns, some important changes will take place in the personnel of the surgical staff of that and the New York Hospital. Dr. Robert F. Weir and Dr. William T. Bull have been appointed to succeed Dr. McBurney, and this will cause two vacancies on the surgical staff of the New York Hospital. They assume charge at Roosevelt Hospital on April 16. These new appointments will be an advantage to the College of Physicians and Surgeons, because the students will now only have to go across the street to attend the surgical clinics instead, as heretofore. of going to a distant portion of the city.

HOSPITAL FUNDS.

The treasurer of the Hospital Saturday and Sunday Association reports that the collection for 1899-1900 amounts to more than $74,000, or nearly $4000 in excess of the sum collected last year. Of this amount, over $9000 was collected by the Woman's Auxiliary. About $13,000 was specially designated to various hospitals by individual donors, and $3000 was reserved for future expenses, leaving $58,000 to be distributed to the various hospitals on the basis of free work performed. The Montefiore Home and St. Luke's Hospital received the largest amounts, $5800 and $5161.67, respectively; six other hospitals, sums ranging from $2057 to $4915.59; ten others, amounts varying from $1000 to $2000, and nineteen, sums ranging from $250 to $964.

PENNSYLVANIA.

At a special meeting of freeholders, in Mount Holly, April 10, it was decided to recommend the erection of an insane asylum on the county farm at New Lisbon.

By the will of the late Jacob Justice, $60,000 has been devised for the establishment of a nonsectarian dispensary for the treatment of the poor and distressed, at Mount Pleasant.

SALE OF OLEOMARGARIN.

At the Governor's request, a report has been filed by Secretary of Agriculture Hamilton in regard to the enforcement of the law in regard to the sale of oleomargarin in this state. Of 402 samples recently analyzed, 75 per cent. were pure butter, 27 renovated butter, and 300 oleomargarin. During the past year 256 prosecutions were brought for selling oleomargarin, of which 76 were dismissed by magistrates or grand juries, and 80 are still pending. Of 120 suits brought, 70 were in Philadelphia. The provision in regard to the color law has been contested in Pittsburg and Philadelphia. Since January 1, 1417 licenses have been granted for the sale of oleomargarin.

Philadelphia.

The H. C. Wood Medical Society held its annual reception on April 7.

By bequest of Matilda Kaufman, $1000 has been given the Jewish Hospital.

Dr. Samuel Wolfe has resigned from the medical staff of the Philadelphia Hospital.

Dr. Albert E. Roussel, of the Medico-Chirurgical College, has been appointed consulting physician to the Hayes Mechanics Home.

The two concerts for the relief of families of American soldiers and sailors now in the Philippines, realized $13,000.

Dr. E. B. Mongel, of the Samaritan Hospital, who has for some time been confined to his bed with diphtheria, has resumed his duties.

The Pennsylvania Hospital has purchased certain property opposite the hospital grounds, on which to build a home for nurses.

A man and his son of 5 years were recently admitted to the Pennsylvania Hospital, suffering from ptomain poisoning from bean soup which had been preserved in tin cans.

Dr. George M. Bradfield, surgeon of the Seventh U. S. Infantry, stationed at Fort Ontario, N. Y., has been spending a few days in this city. He was in charge of the medical staff during the outbreak of yellow fever at Savannah in 1899.

The net proceeds of the Hebrew charity ball, held February 20, amounted to $19,656. 56. The funds have been distributed as follows: Jewish Hospital Association, $5417.65; United Hebrew Charities, $230.83; Jewish Foster Home and Orphan Asylum, $5044.02; Orphans' Guardians, $1307.71; besides some to various other charitable organizations.

The deaths during the past week numbered 691, a decrease of 41 over last week, and an increase of 171 over the corresponding period of last year. The causes were: nephritis, 34; cancer, 11; tuberculosis, 53; diabetes, 1; heart disease, 49; influenza, 46; appendicitis, 2; rheumatism, 3; septicemia, 6; suicide, 1.

MARYLAND.

The new group of buildings at Springfield Insane Asylum (Sykesville, Md.) is about completed and will be ready to be turned over to the Board of Managers this week.

MEDICAL LEGISLATION.

The governor has vetoed the bill passed by the legislature "To amend the health laws subtitled 'Local Boards of Baltimore County.'" The following acts of the legislature have also become laws by the approval of the governor. One to relieve Frederick City Hospital Association; one to establish a commission of state aid and charities; one to amend the lunacy law relative to the commitment of insane paupers; the Western Maryland Hospital, Cumberland, receives an appropriation of $5000 for building, etc., and $3000 annually for two years for maintenance. Of the former amount, $4000 will be spent in the erection of an operating-room, and $1000 on interest on the hospital debt.

Baltimore.

A colored man was found ill with the smallpox, in the eastern part of the city, on the 11th. He was sent to the quarantine hospital, where there are two cases from Sparrow's Point.

Drs. W. W. Russell and Thomas S. Cullen, heretofore connected with the department of gynecology in the Johns Hopkins University, have been appointed associate professors.

Rev. August Pohlmann, M.D., who has been a medical missionary in Liberia, Africa, for the last two years, representing the English Lutheran Church, has arrived here, in poor health.

The annual commencement of the Baltimore University School of Medicine was held at Ford's Opera House, April 11. Prof. E. Miller Reid, M.D., of the faculty, delivered the oration. There were 49 graduates, one a Maryland woman, formerly a pupil at the Woman's Medical College. A banquet followed.

At the meeting of the Johns Hopkins Historical Club on the 9th inst., "John Locke's Notes on a Case of Tic Douloureux" in the English ambassador's wife in Paris, were read and commented on by Dr. Harvey W. Cushing. Dr. Wm. H. Welch delivered the first of two lectures on the "History of the Doctrines of Fever."

Fifty-nine of the seventy students of the senior class of the Baltimore Medical College have passed satisfactory examinations and will receive their diplomas at the approaching commencement. J. K. B. E. Seegar, of Maryland, received the gold medal, the surgical and gynecologic prizes, and will also be awarded the degree *magna cum laude.*

OBSERVATIONS ON PNEUMONIA.

An interesting "symposium" was held by Dr. Wm. Osler, at his public weekly clinic on the 11th. To four of the third-year class he assigned the duty of preparing papers on the etiology, pathology, symptomatology and treatment of pneumonia, respectively. The reading of these occupied the entire hour. They were based on the cases of pneumonia which have been in the hospital since Oct. 1, 1899. A tabulated record of these cases, fifty-eight in number, was exhibited on blackboards, also colored chalk drawings of pathologic conditions.

The following points of interest in connection with the series may be mentioned: Of the 58 cases, 6 should be omitted, 3 being children with bronchopneumonia, and 3 being tuberculous. Of the 52 remaining, 19 died. Marked delirium occurred in about one-fourth. The blacks were to whites as 3 to 2, although the entire admissions show a proportion of 1 to 7. The right lung was affected about twice as often as the left, and about one-third oftener than both lungs together. The maximum leucocytosis varied from 6875 to 71000, the ages from 18 to 70-odd years; 4 or 5 were bled; in 4 serum was employed, but without marked effect, 1 of the 4 died. There has been much employment at this hospital of injection of saline infusions, and oxygen inhalations, but all treatment has been ineffectual, and the mortality during the season has been very high. Dr. Osler remarked that pneumonia was the most fatal of all acute diseases. He added that fibroid induration was a rare sequel, not an instance having occurred in the hospital. The longest instance of delayed resolution he had known was thirteen weeks. Interesting in the tables is the vexed question of the relative severity of upper lobe and lower lobe pneumonias. In 9 a single upper lobe was involved (7 right, 2 left); in 15 a single lower lobe. The mortality of the former was 2, of the latter 4. A comparison of the two series does not show any marked difference as to symptoms and prognosis.

LONG LITIGATION ENDED.

The Supreme Court of the United States has disposed of the long-continued litigation between the nieces and nephews of the late Enoch Pratt, of Baltimore, and the Trustees of the Sheppard Asylum. After the decision of the Maryland Court of Appeals, the plaintiffs sued out a writ of error and the case went on the docket of the Supreme Court, where it would not be reached for two years. The counsel for the trustees, some weeks ago, filed a motion to dismiss the writ, on the ground that there was no Federal question involved and no impairment of contract between the state and "Trustees of the Sheppard Asylum," the corporation to which Moses Sheppard bequeathed the legacy for the asylum, and that if there were any such impairment of contract, the Pratt relations were not parties nor privies to the contract, and had no standing in the Supreme Court in the matter. The Supreme Court adopted this view and dismissed the writ. The decision of the Court of Appeals therefore stands unchallenged, and the large bequest of Enoch Pratt is available for the increased work of the institution, under the conditions set by him, one of which was that his name should be added to its title. The additions to the hospital, designed by Mr. Pratt, will be at once undertaken.

OHIO.

The trustees of the Massillon State Hospital have decided to begin the erection of the new assembly hall immediately. It will cost $50,000, the entire amount of the construction fund allowed by the legislature.

The semi-annual report of the directors of the Toledo Infirmary states that during the past six months 23 inmates have died and 122 have been discharged. The number of inmates on March 1 was 317.

Cincinnati.

Dr. Clark Davis has been appointed health officer.

Dr. Sanford McClure, lately interne to the Cincinnati Hospital, has been appointed an assistant surgeon, U. S. A., with the rank of lieutenant. He is ordered to the Philippines.

APPOINTMENTS.

After eighteen months' service in the City Hospital, Drs. H. W. Hines, A. H. Smith, N. P. Graham, and C. H. Beeson were relieved of duty April 10, their terms having expired. Their places were filled by Drs. Hawes, Brankamp, Iliff and Ayres. Drs. Pritchard, Stix, Berry and Taylor, the successful candidates of a month ago, will enter hospital service at the same time.

INDIANA.

Dr. W. R. Francis, Marion, has been appointed a member of the Grant County Pension Board.

The annual commencement of the Fort Wayne Medical College was held March 27. Five students were graduated.

Indianapolis.

Dr. W. G. Rice has been appointed government pension examiner for the Eighth Congressional District.

Thirty-four degrees were conferred at the annual graduating exercises of the Medical College of Indiana, held April 8.

The annual commencement of the Central College of Physicians and Surgeons was held April 7, with a graduating class of seventeen.

A meeting of the City Board of Health was held April 7, to consider the crowded condition of the city hospital. A separate building for nurses, to cost $5000, and a $25,000 addition to the hospital were urged. Action on the matter was deferred.

INDIANA MEDICAL COLLEGE.

Contracts have been closed by the Indiana Medical College, with St. Vincent's Hospital and the Protestant Deaconess' Hospital for wards to be used during the next college year, for bedside instruction of the senior class. The hospitals are to furnish beds, food and nurses, while the treatment will be in the hands of the medical college.

KENTUCKY.

APPOINTMENTS.

The following appointments have been made by the "Governor": Dr. L. L. Robertson, Middleboro, as a member of the State Board of Health, vice Dr. Dickenson, whose term had expired; Senator J. G. Furnish, M.D., an [illegible] supporter of the late William Goebel, as Superinten [illegible] Lakeland

Asylum, and Dr. J. W. Hill of Bardstown as first assistant physician. Dr. M. M. Lively, the appointee of Governor Taylor, refuses to give up the position of superintendent until after the supreme court has acted on the question of who is governor of Kentucky. An agreement has been reached between the two appointees to await this decision.

Louisville.

At the reunion of the class of 1894, of the medical department of the University of Louisville, held recently, Dr. J. C. Pannenborg, of Hammond, Ind., was elected president, instead of Dr. Vernon Robbins, as previously noted in these columns.

NORTON INFIRMARY.

There is to be a new wing to the present building, doubling the capacity of the institution, at a cost of $50,000. One of the objects of erecting this is to make the Infirmary self-sustaining by the increased capacity. It is under the management of the Episcopal Church, but is entirely nonsectarian in its work.

MEDICINE VENDORS.

The Kentucky Board of Pharmacy, at its last meeting in this city, decided to wage war against the patent medicine fakirs and street vendors of medicine who are not recognized by the Board. Already many convictions in various parts of the state have been secured for violation of the state law. The report of the secretary shows there are about 2000 registered druggists in the state.

KANSAS.

A new hospital is in course of construction at Winfield.

Plans and specifications for the Gage annex to Stormont Hospital, Topeka, have been completed. Mrs. Gage has set aside $10,000 for the building and equipment of the new structure, which will double the capacity of the hospital.

HEALTH BOARD FUND.

The fourteenth annual report of the State Board of Health has just been issued. It gives special attention to contagious diseases, and the secretary calls the attention of the Governor and legislature to the fact that while the Board is required by law to establish quarantine against contagious diseases, no emergency fund has been set aside for the fulfilling of these requirements. He urges that there should be such a fund at the disposal of the Board.

CALIFORNIA.

Dr. W. D. Anderson, Vallejo, has been elected secretary of he Board of Health and ex-officio health officer of that city.

San Francisco.

Some difficulty is being experienced by the San Francisco Board of Health in its efforts to cleanse Chinatown, several Chinamen having filed suit to restrain the Board from compelling them to move to more sanitary quarters.

The report of the Los Angeles Health Department for March shows a mortality of 171, which is equivalent to an annual death-rate of 19.92 per 1000 inhabitants. During the month 113 cases of contagious diseases were reported.

Dr. R. W. Hill, Los Angeles, was elected president of the State Board of Health, April 7. A resolution was adopted by the Board calling on the State Board of Examiners to make renewed inquiries into the qualifications of the medical practitioners of the state and, on investigation and proof, to annul the license of all those not qualified to practice.

OREGON.

At the commencement of the Medical Department of the University of Oregon, Portland, a class numbering twelve was graduated.

TENNESSEE.

A meeting of the State Board of Health was held in Nashville, April 3, and resolutions adopted on the death of Dr. Ernest B. Sangaree, bacteriologist of the Board. Rules were promulgated governing the transportation of bodies for anatomic purposes.

The number of graduates at the recent commencement of the Medical Department of Vanderbilt University, Nashville, was 94 instead of the number given in last week's Journal.

TEXAS.

The commencement exercises of the medical department of Fort Worth University were held April 5. Degrees were conferred on twenty-four.

IOWA.

Six students were graduated from the Sioux City College of Medicine, April 4.

UTAH.

At a meeting of the State Board of Medical Examiners, April 4, it was decided that all applicants for license to practice obstetrics must have reached the age of 21 years.

ARKANSAS.

The twenty-first commencement of the Arkansas University's medical department, Little Rock, was held April 5. There were eight graduates.

SOUTH CAROLINA.

The commencement exercises of the medical department of the State University of South Carolina, Charleston, were held April 8. Diplomas were awarded to forty-three.

MISSOURI.

St. Louis.

At the commencement of the Beaumont Hospital Medical College, March 30, fifty-four were graduated.

The commencement exercises of Barnes Medical College were held April 12. There were 106 graduates.

ALABAMA.

A class of fourteen was graduated from the Birmingham Medical College, April 2.

It is proposed to establish a hospital in Montgomery for the accommodation of pay and charity patients.

WISCONSIN.

The annual report of the director of the Milwaukee Hospital shows that 663 patients were treated during the year.

The seventh annual commencement of the Wisconsin College of Physicians and Surgeons, Milwaukee, was held April 3. There were ten graduates.

MINNESOTA.

INCREASED MEDICAL REQUIREMENTS.

At the annual meeting of the board of regents of the state university, in Minneapolis, April 5, it was decided to raise the standard of admission to the medical school. After 1902 those who wish to enter the school will be required to pass an examination equal to that now required from sophmores in the academic department, and the following year this will again be raised to equal those requirements now demanded of the junior class in the academic department.

CANADA.

Dr. W. L. Watt, Winnipeg, has gone to Dublin to take a course at the Maternity Hospital.

Dr. G. S. Ryerson, Canadian representative of the Red Cross in South Africa, writes that there are over eighty Canadians in the hospitals there, with enteric fever.

Dr. Shirres, Montreal, is prosecuting studies in Baltimore, Md., on the pathologic and clinical conditions of the nervous system, under Drs. Barker and Berkeley of Johns Hopkins University.

The medical department of Toronto University has sent broadcast, throughout the province, a circular letter to the profession, setting forth the objections to the proposed legislation as indicated in the bill of Dr. Mackay, referred to in previous issues of The Journal.

Surgeon-Major D. A. Campbell, of the 63rd Rifles, Nova Scotia, will retire with the rank of surgeon-colonel; and Surgeon-Captain A. W. Cogswell will be promoted to surgeon-major.

Nova Scotia, at the session of the legislature just prorogued, passed an act prohibiting expectoration in all tram-cars. Local boards of health are empowered to prosecute in case of infringement of this ordinance.

Dr. R. M. Bucke, superintendent of the London (Ont.) Asylum for the Insane, in company with the chief engineer of the Public Works Department of Ontario, is visiting leading American hospitals for ideas in connection with the equipment of the infirmary about to be erected at the London asylum.

The secretary of the Victoria (B. C.) Medical Society writes that two of their number after signing the agreement to abstain from all lodge practice, previously discussed in these columns, have been expelled from the Society on account of contracting with the fraternal societies to do all this work in Victoria.

GENERAL SURGERY IN THE LONDON ASYLUM.

In last week's correspondence to The Journal, note was made of the gynecologic work prosecuted at this asylum, and it may prove interesting now to record that of a general character. During the last five years 51 operations have been performed, as follows: Bassini's, for radical cure of hernia, 31 times; operations for removal of cancer, 2; appendicitis, 2; trephining, 1; for hydrocele of the tunica vaginalis, 2; for chronic prolapse of the rectum, 1; for volvulus of the large intestine, 1; for fracture of the lower jaw—wired, 1; minor operations, 10. No deaths occurred as a result of the operations. Radical cure was obtained in all of the hernia cases. All the operations were successful except that for fracture of the jaw, in which union was not obtained. As regards the effect mentally, only one of these patients received benefit to the extent of complete restoration, and that was a female. In the report the age is not given; she was confined for acute mania, had suffered from chronic appendicitis, and had her appendix removed on June 13, 1899. It is further recorded that these patients were all improved to the extent that they seemed better tempered than before.

MATTERS MEDICAL IN MANITOBA.

Tuberculosis seems to claim as many victims in Manitoba as in the other provinces.

During the year, there was an outbreak of diphtheria in the Winnipeg General Hospital, attributed to bad sanitation in the building, and as a consequence, extensive alterations and repairs were made last summer.

At present, in conjunction with Dr. Torrance, a research is being carried on into the causes of swamp fever in horses, which prevails chiefly in the eastern portions of the province. It is stated that this disease commits greater ravages than any other equine disease in Manitoba.

During the year the provincial bacteriologist, Dr. Gordon Bell, made the following examinations at the laboratory: Diphtheria swabs, 2563; sputa, 529; urine, 179; blood, 62; pus, 57; pathologic tissues, 50; milk, 120. This work was double that for the previous year.

According to recent published reports, Manitoba has nine insane to every 10,000 of the population, as against 23 in Ontario. Of feeble-minded, there is 1 as against 3 in Ontario; and 3 deaf and dumb to 4 in Ontario. In the Home for Incurables, thirty patients were admitted during the last year, and 269 patients were admitted to the asylums of Manitoba from the Northwest Territories and Keewatin, up to December, 1898, the number on that date, from these districts, being 104. The cost per patient at the asylums of Manitoba was as follows: Selkirk, 48½ cents; Brandon, 48 cents; Home for Incurables, 47½ cents. As to Manitoba hospital statistics, at the Winnipeg General Hospital, 1866 patients were admitted during the year, 1140 being male and 726 female: 153 died. At the Brandon Hospital, there were 344 males and 182 females: 33 died. At Morden, 276 patients were admitted, 165 males and 111 females: there were 6 deaths. At St. Boniface 1089 males and 839 females were admitted: 65 died. At the Maternity, Winnipeg, 54 were admitted during the year, and 8 died. On Jan. 1, 1900, 5 remained in the latter institution. The general health of the province during the year was unusually good, with no serious epidemic. Only one case of smallpox was recorded, although there were hundreds in Ontario and Quebec. The Board of Health of the province recommends that a check quarantine be established by the Dominion Government at Selkirk, and that closer inspection be made at Halifax, N. S.

MATTERS MEDICAL IN THE ONTARIO LEGISLATURE.

Consumptive Sanatoria.—During the past week there was an explanation of the policy of the government in regard to the consumptive sanatoria. The provincial secretary, the Hon. Mr. Stratton, in moving the second reading of this bill, explained that it was in accord with the government's policy in aiding suffering humanity to the fullest possible extent. It provided that the council of any county might take the initiative, or a group of municipalities or counties could unite for the purpose of erecting sanatoria. The management and control of the institutions were to be in the hands of trustees elected by the municipalities. The lieutenant-governor-in-council could grant one-fifth of the sum expended on the site, building and equipment, but the sum this year for such purpose should not exceed $4000. Then the municipality would be obliged to pay $1.50 a week for each patient whose admission was approved, and a similar sum might be paid by the lieutenant-governor-in-council, out of such moneys set apart by the legislature for this purpose. Altogether, it can not be said that the Ontario government has been too lavish in this respect.

Antivaccinationists.—A deputation of antivaccinationists, headed by two or three homoeopaths and accompanied by a handful of dentists, a preacher, a bread-maker, and a goodly company of women, waited on the government, asking for the abolition of compulsory vaccination before a child could be admitted to the public schools. One of the homoeopaths, unused to the responsibility cast on him, read a short essay on vaccination, which he characterized as "the most colossal medical delusion of the century," no doubt forgetting homoeopathy in the exuberance of his animosity and verbosity. After a woman physician had exhausted her persuasive powers on the premier, a request was made by him for literature on the subject; and it is stated that large quantities were immediately forthcoming. The end of this will be a lingering death in the depths of his "serious consideration." (It is worthy of note that the item following this in the parliamentary reports deals with the "Prevention of Floods.")

Treatment of Dipsomaniacs.—Dr. Roseburgh introduced another deputation having a more laudable end in view, viz., the treatment of dipsomaniacs. He was accompanied by a number of medical gentlemen from the city, and members of the profession in the legislature, who conferred with the government as to measures to be undertaken by the government regarding the proposed hospital for inebriates. The deputation suggested the probation system for all cases of drunkenness, with a system of fines and imprisonment for confirmed drunkards, along with a grant to hospitals for treatment of the same.

Correspondence.

The Pasteur Institute.

Paris, March 23, 1900.

To the Editor: Pasteur said, "Science has no country, but the man of science must have one, and it is to her he should bring all the influence his works might have in the world." That was Nov. 14, 1888, in his address at the inauguration of the Institute which was to bear his name. And to-day the wishes of the grand scientist and patriot have been fulfilled, the Pasteur Institute is the Mecca, to whose laboratories of research students and savants from all parts of the globe come to work, and at whose shrine, the tomb of Pasteur, the world pays homage.

The Pasteur Institute is composed of two large stone and brick buildings, style of Louis XIII, connected by a perpendicular axis building, situated in the center of well-kept grounds of almost eleven thousand square meters, at 25 Rue Dutot. The present institution was never intended as a hospital, but as a laboratory of research, to which the hydrophobia patients could come for treatment. But there is nearing completion, across the street, and connected by an underground passage-way, a magnificent structure donated by Baroness Hirsch, in which the gravest forms of disease can be hospitalized, and where, in a most modern amphitheater and laboratories, biologic chemistry can be taught and its practical application followed at the bedside.

We enter the grounds by the iron gate near the house of the Concierge Jupille, who usually accompanies the stranger. Jupille wears several medals for bravery, as it was he who, when a shepherd boy in the Jura, strangled a mad dog, as represented by a statue in bronze before the entrance. He was one of the first patients inoculated with the attenuated virus.

The western end of the front building is occupied by Madame Pasteur and her son and grandson. Here for seven years, within a few steps of his workroom, Pasteur most happily spent the closing years of his active life, and in accordance with his modest dying request, is buried beneath his laboratory. The Pantheon longs to have his tomb among her great men, *La Patrie reconnaisant*, but with poetic instinct he is buried beneath the room whence are shipped to the entire world, the curative viruses—antitoxin of diphtheria, antipest serum, mallein, vaccin Charb., antivenene, vaccin of hog erysipelas. of chicken cholera, tuberculin and, greatest of all, antitoxin of tetanus. The tomb is opened to the public on the first and third Saturdays of each month. The first time I visited it was when Roux took the class, in 1898. There was an expression of reverence and sorrow which we all felt was genuine. The thought of the address of Pasteur came into my mind, of the two principles destructive and constructive, war and peace, and I could not help comparing this tomb with that of Napoleon, with its halo of glory, its sarcophagus of prophyry, and the vault which, if filled to the dome of the Invalides, would scarcely contain the skulls of his victims—to this modest black slab, in the center of a simple vault whose walls represent (in mosaic) dogs, pigeons, chickens, cows, pigs, silkworm workers, all testifying their gratitude, while on a tablet was listed his great battles in science, not of carnage such as Austerlitz, Jena, Wagram, but: 1848, dissymetrie moleculaire; 1857, fermentation; 1862, générations dites spontanés; 1863, études sur le vin; 1865, maladies des ers a soie; 1871, études sur la biere; 1877, maladies virulents; 1880. virus vaccins; 1885, prophylaxie de la rage. What glorious victories these were for mankind! What an amount of research and experimentation they represented, as Pasteur once said: "To believe that one has discovered an important scientific fact, to have the fever of announcing it, and to constrain oneself for days, weeks, and even years, to combat oneself. To force oneself to ruin one's own experiments, and not to proclaim the discovery until all the contrary hypotheses are exhausted, is indeed a difficult task. But when, after so many efforts, one at last reaches certitude, then one feels the greatest joy known to man—contributing to the honor of one's country."

Duclaux, Director Institute Pasteur.

Into the chaotic state of knowledge concerning molecular structure existing prior to 1840 he brought light and system. He showed that the rotary power of the molecule on polarized light was due to dissymmetry of molecular construction and lighted up the way for modern synthetic chemistry. The great bearing on biologic chemistry, of his discovery that the protoplasm of all living cells is gifted with rotatory power, and that they contain in consequence dissymmetric molecules, and that this dissymmetry is in relation to the stability or instability of composition and can not fail to play a rôle in all the chemical compositions of which the protoplasm is the seat. His observation of the change produced in a paratartrate of ammonia solution by the action of a "penicillium" growth, conferring on this solution a left rotatory action on polarized light led him to take up the great questions of fermentation and spontaneous generation. This affinity of the penicillium for only the "right" tartrate was to him the key for opening up the secrets of special culture-media. Great were the scientific battles fought on the questions of spontaneous generation and fermentations. The confusion of ideas prevailing was largely due to the fact that the philosophic or speculative method was employed instead of the experimental and scientific which Pasteur introduced into the study of these problems. Latour, Schwann, and Helmholtz knew of the presence of these microscopic cells, but failed to demonstrate their rôle. Liebig was his bitterest opponent in claiming that these little cells were in decomposition and brought other bodies into the same state of decomposition, whereas Pasteur showed they were living cells, which in breaking up the sugar to get carbon for their own growth, left alcohol and carbonic acid behind.

E. Metschnikoff

His studies led him into consideration of the fermentation of milk, where his discovery of the vibrion butyric opened the field of anaërobic life. Thence followed the explanation of putrefaction, the aërobic cells consuming the oxygen and forming a barrier at the surface, behind which the anaërobes were free to fabricate the hydrogen compounds and liberate the stinking gases. He explained adaptation of aërobes to anaërobic existence, and vice versa. He demonstrated the spore form of resistance requiring sterilization under several atmospheres of pressure, with the introduction of autoclaves into laboratories. His fractional sterilization of liquids which were injured by boiling, allowing time for spores to become cells to be more easily killed, gave us Pasteurized milk. The idea of spontaneous generation was completely exploded, Pasteur demonstrating that germs were always introduced by the air or external contamination. The sterile flask of bouillon which he presented before the Academy of Science in 1862, remains to-day, after thirty-eight years, as limpid as originally. His triumphs in wine and beer fermentation have added incalculable wealth to his country, and from a purely financial point of view have been nearly or quite equaled by prevention of phylloxera and studies on diseases of silkworms.

The real humanitarian battle-field, however, only commenced with his discoveries in regard to anthrax and the bacillus of malignant edema, hog erysipelas, chicken cholera and hydrophobia. Chicken cholera was especially interesting because, in studying this, he found that old cultures gave a mild disease on inoculation, which conferred immunity on the animal inoculated against the virulent disease, and thus was the theory of attenuated virus launched. By cultivating anthrax at a temperature of 107 F. for eight days, spore fermentation was prevented and virus attenuated. From the decisive test of fifty inoculated sheep at Pouilly-le-Fort in 1881 until 1894 there were nearly four million sheep inoculated in France, with a mortality of only 1 per cent.; one-half a million cattle with less than 3 per cent. mortality. Pasteur's most popular discovery was the attenuation of the virus of hydrophobia. This dreadful disease, so frequent in France, appealed to the imagination of all, and the astonishing statistics published in 1894, of 20,000 patients treated with a mortality of only 5 per 1000 has conquered even the German prejudice.

But why try to enumerate the benefits of Pasteur's works? It can never be done. His influence and spirt of research have fallen like a mantle on his disciples, Roux, Duclaux, Metschnikoff, Borel, Martin, Calmette, and the natural respect among the French for their *Maitres* has in this case become a "cult" from whose chief temple high priests of science have gone forth to establish branch Pasteur institutes in India, China, Japan, Africa, Russia, and the United States. When the plague threatened Europe at Oporto, it was the Pasteur Institute which sent Calmette and Salimbeni, to whose efforts are due the splendid results of reducing the mortality from 62 per cent. in untreated to 14 per cent in those treated by pest antitoxin.

We visited the rest of the building, ascending to the large, handsome, well lighted library, with the current medical literature of the world as well as a mosts complete medical library, especially well supplied in works on bacteriology and pathology. Passing through the corridor to the rear building we turn to the right into the large laboratory for class instruction. Two courses of two months each are given here in microbiology—commencing in November and February. The cost is but nominal, nearly all material being furnished free. At no place in Paris are foreign medical men so well treated as at Pasteur's Institute, and while the French students usually have to inscribe a year in advance, foreigners are given places at once.

There is a probability of a course being given during the summer, especially for foreigners. M. Roux, whose modesty and enthusiasm for science make him a warm favorite with the students, has been in poor health for some time, and his course is given by Metschnikoff and Borel, with the collaboration of such specialists as Calmette on pests, Nocard on glanders, Martin on diphtheria, Vaillard on tetanus, Sabouraud on tricophytons, Morox on gonococci, Laveran on malaria, and others. The lectures are given from 1:30 to 3 p.m., after which there is practical work in all the processes used in bacteriology. Students who wish to follow some special line of work are allowed to continue after the termination of the spring course. If a worker already known for his researches desires the facilities of the Institute, the courtesies of Metschinkoff's laboratory on the floor above are usually extended.

Next to the general laboratory are the private laboratories of Roux and Borel, and returning to the main corridor we cross over into the domain of Duclaux and his corps of workers. Here is a most completely equipped chemical laboratory, where the successor of Pasteur as director of the Institute, reconciles into perfect harmony the sciences of bacteriology and chemistry. As professor in the Sorbonne he gives a course of lectures on biologic chemistry in his special amphitheater. As author of the most extensive work on bacteriology, not yet finished, as well as director of "Les Annales d l'Institut Pasteur," which was founded under the patronage of Pasteur in 1887, and which contains in detail the unequaled work of the Institute for the past thirteen years, Duclaux is one of the hardest worked savants in Paris.

Ascending to the third floor, we find mostly private laboratories. Here are such men as Morox, Wasserman, and Christmas, whose work on the gonococcus is well known, Marmorek, known for his antistreptococcic serum and others.

Descending to the first floor, to the right are the microphotographic rooms, aquarium, and glass-blowers' room.

To better control its results the Institute tries to have every thing made on the spot. Hence they manufacture all the glassware used in cultures, peptones, etc. The librarian also fills the functions of lithographer for "Les Annales."

Crossing over to the western wing, we enter the service of the "rage" or hydrophobia. Here is a large waiting-room, to which, every day at 10 a.m., about fifty patients come for treatment. They pass first into the registry-room, where complete records of cases can be kept. Cases are categoried under three groups: 1. Those where "rage" is demonstrated to exist in the animal inflicting the wound, as shown by inoculation into the brain of a rabbit, with resulting paraplegia and death in eight days. 2. Those with a veterinary surgeon's certificate. 3. Those with no scientific proof of the existence of rabies in the suspected animal. In the next room the inoculations are made. All necessary antiseptic precautions are used, and there are never any unpleasant symptoms following injections, which are commenced in a new case with triturations of the rabbit's spinal cord, which has been attenuated for fourteen days, increasing the intensity of the dose up to eight days' attenuation, then recommencing.

In the next room the rabbits are inoculated by trephining the skull and introducing the trituration of the spinal cord of the rabbit that died the day before. A rabbit has died of hydrophobia each day for twenty years. This maintains the culture in all its virulence. For the attentuation, acting on the same ideas as with chicken cholera, i. e., cultures in becoming old lose virulence, the removed cord is suspended in a sterile jar containing caustic postash in the bottom. This jar is placed in one of a row of compartments with wire gauze doors, in a dark room, kept at a uniform temperature of 23 C. At the end of fourteen days the cord loses its toxic properties. A control tube of bouillon into which a fragment of the cord was placed on removal from the rabbit indicates freedom from contamination. This must remain clear, otherwise the cord is condemned and not used. The rabbits which have been inoculated are kept in very hygienic cases which can be flushed and food introduced without disturbing the animals. Several outhouses contain guinea-pigs, rabbits, chickens, geese, ducks, pigeons, mice and rats for use in the laboratory. A separate house contains the cages of animals inoculated and under observation.

The farm adjunct at Garches, near St. Cloud, has 200 horses which furnish the antitoxins of diphtheria, tetanus and pest.

A. D. Newborn, M.D.

Bacteriology and Pathology Society.

April 12, 1900

To the Editor: The undersigned believe that the time has come for the formation of a national society, devoted to the advancement of the interests of the medical sciences, as distinct from the clinical side of medicine. The proposed society will be specially concerned with pathology and bacteriology, and a meeting for discussion of its plan and scope will be held in Washington, D. C., on the afternoon of Monday, April 30, at 2:30 p.m., in the Arlington Hotel. The general plan of the Society, so far as yet suggested, is:

1. Membership is limited to those who have already accomplished creditable work in research in pathology or bacteriology. 2. Meetings to be held annually in some important center, as may be determined (in May or June). 3. Members of the society to see that the work done by them, or under their control, is represented at the meetings of the society.

Very truly yours,

Wm. T. Councilman.
Harold C. Ernst.
Simon Flexner.
Ludvig Hektoen.
Wm. T. Howard, Jr.
W. H. Park.
Theobald Smith.

Ethical Proprietary Preparations.

New York City, April 8, 1900.

To the Editor: I read your editorial and notice to your advertisers in The Journal of March 31, and believe that as far as a criterion can go by which to accept or reject advertisements of the proprietary medicines used by physicians, the one you have adopted is the most practical of any that has come to my knowledge. As editor of the "Medical Directory of New York, New Jersey and Connecticut," I was compelled to study the subject of the advertising of proprietary medicines, and while I believe that an ethical preparation is one, the published formula of which, in the hands of a competent pharmaceutical chemist, will reproduce the identical preparation found on the market, yet the standard adopted by you, to-wit: "the publication of the quantity of the active ingredients in all proprietary medicines advertised to physicians only," is a practical solution of the question and perfectly fair to honest commercial interests and to medical science. My definition of an ethical preparation must be considered ideal as applied to the business end of medical publications. In other words, it is ideal but not practical. If physicians know the quantity of the active ingredients of proprietary medicines brought to their notice, it seems to me to be as much as the profession can ask of honest commercial houses. The nicety of the preparation, so far as it is due to filtration or the cleanliness or the temperature or some other trade secret connected with the art of uniting the active ingredients in the quantities given to produce an elegant preparation, must be considered as belonging to the rights of honest commercialism. While we hope that the time will come when commercialism will not be considered as having any rights in inventions or discoveries that have to do with the promotion of public health and the treatment of disease, yet it does seem as though honest commercialism should be to-day recognized in the protection, for a limited time, which the patent laws grant to inventors and discoverers as a stimulus to their work of continuing what might be a profitless investigation without government protection. The abuse of the copyright and trade-mark laws so as to protect secret preparations in perpetuity is a matter worthy of the immediate consideration of Congress.

There is always a conflict between an ideal and a practical standard of judging any question. I am one of those who believe that the practical solution of any question leads to something better and thereby approaches the ideal.

You are to be congratulated for starting to clean up the advertising pages of The Journal, and may your good beginning lead all medical publications to a higher end.

E. Eliot Harris, M.D.

Chairman of the Committeee on Legislation, New York State Medical Association.

Book Notices.

A Manual of Surgery. By Charles Stonham, F.R.C.S., Senior Surgeon to the Westminster Hospital. In three volumes, Vol. I. General Surgery. Vol. II. Injuries. Vol. III. Regional Surgery. Cloth. $6. New York: The MacMillan Co. 1900.

This is an American reproduction of an English work on surgery which has as its chief purpose to give a brief succinct account of surgical principles and measures and to serve as a convenient manual for students and practitioners. It is different in form from the usual American text-book, divided into three volumes, each of convenient, almost pocket, size. This has its advantages for study and handy reference, and might be more generally adopted without causing complaint, provided the work is not thus made any more expensive as a whole.

The first volume deals with general surgery and surgical diseases, and gives within a comparatively brief compass a detailed account of the subject. In the second volume injuries are considered and the third covers the subject of regional surgery. As compared with most American works of the same general compass less detail is given to some subjects, such as inflammation and its varieties, appendicitis, and some others, but these are fairly handled, and as a manual rather than as an exhaustive treatise it covers, in its 1200 and more pages, the general subject of surgery quite fully. It is English largely in its references to apparatus, etc., some of which are not so likely to be useful to the student in this country on that account, but this is comparatively a minor matter. One can honestly recommend the work for the purpose for which it was designed. A very convenient feature is the complete index repeated in each volume.

"Christian Science." An Exposition of Mrs. Eddy's Wonderful Discovery, Including its Legal Aspects. A Plea for Children and other Helpless Sick. By William A. Purrington, Lecturer in the University and Bellevue Hospital Medical College. Cloth. Pp. 194. Price $1. New York: E. B. Treat & Co. 1900.

This is largely a reproduction of articles published in the *North American Review, Medical Record* and *New York Sun.* The author is a well-known legal authority and a lecturer of Bellevue Hospital Medical College. He also, as might be expected, has very accurate and adequate ideas of the questions of medical science so far as they are involved in the subject treated. If any one wishes to get a fair idea of the modern delusion called "Christian Science," as seen from a medicolegal point of view, we would advise him to read this work. Besides the articles on Eddyism there are two chapters on subjects equally of interest to the medical practitioner, one on "How Far Can Legislation Aid in Maintaining a Proper Standard of Medical Education?" the other on "The Evolution of the Apothecary." Inasmuch as almost every physician has to deal directly or indirectly with the delusion of "Christian Science," or is liable to in his practice, acquaintance with this volume will certainly be of advantage.

A System of Medicine. By Many Writers. Edited by Thomas Clifford Allbutt, M.A., M.D., LL.D., D.Sc., F.R.C.P., F.R.S., F.L.S., F.S.A., Regius Professor of Physic in the University of Cambridge. Volume IX. Cloth. Pp. 998. Price, $5. New York: The MacMillan Co. 1900.

The eighth volume of Allbutt's System of Medicine (numbered 9 in the title page and cover) contains a continuation of the subject of nervous diseases, with the section on mental disorders and that on disorders of the skin. In the first part we have, among other things, elaborate articles on hysteria, by Ormerod; on neurasthenia, by the editor, Dr. Allbutt; on traumatic neurasthenia by Professor Horsley. All of these, as well as the shorter ones, are valuable and important contributions. We should mention as also noteworthy the article by Risien Russell on tetany, which has also quite an extensive bibliography appended. The longest, and in some respects most noteworthy, article, that of Dr. Mercier on "Vice, Crime and Insanity," is well worth reading. The section on mental disease is contributed to by such authors as Drs. Savage, Warner, Shuttleworth, Beach, Mercier, Clouston, Rayner, Batty Tuke and others whose names are a guarantee of the value of the separate chapters. As in all composite works, however, there is some lack of perfect co-operation. The section on skin diseases occupies the larger half of the work. The names of the contributors include Drs. Stephen Mackenzie, Payne, the editor of the section, Dr. Brooke, of Owens College, Drs. Crocker, Malcolm Morris, Jonathan Hutchinson, Henry Head, and others scarcely less well known. The section forms a very useful and apparently thorough text-book on skin diseases. As a whole the volume very worthily fills out the series.

Imperative Surgery for the General Practitioner, the Specialist and the Recent Graduate. By Howard Lilienthal, M.D. Price $4. New York: The Macmillan Co.

In criticising this work one is somewhat disarmed by the statement in the preface that it "presupposes the absence of a surgeon and the impossibility or inexpediency of removing the patient or of waiting for expert assistance." The number and distribution of good surgeons would make the fulfilment of the above conditions a very rare occurrence in this day. Some of the advice approaches very near the laity, and repetition is common, as the author remarks. The use of the dangerous 4 per cent. solution of cocain subcutaneously as a local anesthetic, when Schleich's solutions are so harmless and efficient, can not be endorsed. Nor can the advice to suture the gall-bladder to the skin in cholecystostomy, owing to the difficulty often experienced in closing such fistulæ. The recommendation to leave the skin unsutured and pack with gauze in the radical operation for hernia shows a lack of confidence in the ability to do clean work, and increases much the danger of secondary infection of the deep layers.

There are certainly emergencies in all lines of work, which must be met on the spur of the moment with what lies next to hand, but the majority of the subjects handled in this volume do not come under that head. The illustrations are good, and the publisher's work has been well done.

Clinical Studies in Vice and Insanity. By George R. Wilson, M.D., Medical Superintendent, Mavisbank Asylum. Cloth. Pp. 235. Price $3. New York: The MacMillan Co. 1899.

Most works on mental diseases have a certain interest in their clinical histories, but there are very few in which the accounts of cases are written more racily or entertainingly than in this. The book is made up chiefly of the accounts of some twenty-seven cases of alcoholism or alcoholic insanity and other forms of mental disease in which the moral sense is more or less involved in the general aberration. The author introduces it as usual with certain general chapters on the pathology of drunkenness, etc., but they occupy only some fifty out of over 200 pages. The book is also quite instructive as to methods and management, and the author is evidently a man of experience and judgment in the handling of these cases. He does not make any attempt to classify them; in fact he does not believe in the classification of insanity, and some of the cases, the histories of which he gives, would be rather puzzling to place. There may be differences of opinion in regard to some of his ideas, though it can not be questioned that he has given a valuable as well as unusually interesting work.

The Diseases of Children. Medical and Surgical. By Henry Ashby, M.D., F.R.C.P., Physician to the General Hospital for Sick Children; and G. A. Wright, B.A., M.B., Oxon. F.R.C.S., Assistant Surgeon to the Manchester Royal Infirmary. Fourth Edition. Edited for American Students, by William Perry Northrup, A.M., M.D., Professor of Pediatrics, The University of Bellevue Hospital Medical College. Cloth. Pp. 894. Price, $5. New York, London and Bombay: Longmans, Green & Co. 1900.

This American reproduction of a well-known British work is a valuable addition to our literature on its subject. In the main, the American editor has, as he says, left the text intact, adding only, in the appendix, a few notes on dietetic preparations, intubation, drugs, etc., and certain surgical procedures, these last additions being made by Dr. T. Halsted Myers. The formulæ have been entirely rewritten to conform to the U. S. Pharmacopeia. Inspection of the work shows it to be a modern text-book that will very fairly meet the needs of the practitioner. Some subjects that just now are prominent are rather briefly treated, that of adenoids for example, which is disposed of in hardly more than half a page, but what is said is probably sufficient. The book is well illustrated and has an excellent index.

A Pilgrimage: Or the Sunshine and Shadows of the Physician. By Wm. Lane Lowder, B.S., M.D., McKinney, Ky. Price, $1. Published by the Author.

The book is made up principally of essays and papers presented to different medical societies, on subjects relating to the physician's personal and professional life. They cover the mental, moral, literary and professional qualifications of the physician, his relationship to the public, the profession, and to himself, medical ethics, medical societies, etc. Although a little, unpretentious volume of only 196 pages, it contains much good sound sense, and is well worth reading.

Transactions of Mississippi Valley Medical Association. Twenty-fifth Annual Session, held at Chicago, Ill., Oct. 3, 4, 5 and 6, 1899. Vol. 1. 1899.

This is the first time that the Mississippi Valley Medical Association has published its transactions. These make a large book, nearly 500 pages, and it includes all of the papers read at the last meeting, as well as the discussions. The Constitution and By-Laws of the Association are included, but not the list of members. The book, as a whole, is a credit to the publication committee, and the committee is to be congratulated on the result of its efforts. The color adopted for the binding—blue—may reflect the condition of the committee at the time this was selected, but, as a thing of beauty, it does not add to the artistic appearance of the book. This, however, may be simply a matter of taste.

The Year-Book of the Nose, Throat and Ear. Edited by G. P. Head, M.D., Professor of Laryngology and Rhinology in the Post-Graduate Medical School of Chicago, and Albert H. Andrews, M.D., Professor of Otology in the Post-Graduate Medical School of Chicago. Cloth. Pp. 275. Price $1.50. Chicago: Chicago Medical Book Co. 1900.

The editors of this year-book have produced what ought to be of service to those engaged in the specialty of rhinology and otology and can also very well be of value to the general practitioner. They have brought together and classified in readable, abstract form the substance of leading articles which were published during the past year on diseases of the nose and throat and of the ear, collected from the current medical literature and from monographs. The venture is practically a new one, but it starts well and we hope it will be as worthily continued.

Histology and Pathology. A Manual for Students and Practitioners. By John Benjamin Nichols, Demonstrator of Histology, Medical Department of Columbian University, Washington, D. C.; and Frank Palmer Vale, M.D., Assistant in Pathology, Medical Department of the University of Georgetown, Washington, D. C.; Series Edited by Bern B. Gallaudet, M.D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York City. Illustrated with 213 Engravings. Cloth. Pp. 458. Price, $1.75. Philadelphia and New York: Lea Brothers & Co.

This volume appears to serve its purpose in presenting the essential facts relative to the normal and pathologic histology and anatomy of man in a concise and systematic way. It seems to be a very good compilation on the subject, is well illustrated, and for those who desire merely brief data without discussion or elaborate explanation it will serve a useful purpose. So far as we can see it is up-to-date and the facts are generally reliable.

Association News.

Committee on National Legislation.—Notice has been sent to the delegates to the National Legislative Conference of the American Medical Association, to meet in Washington on May 1 and 2 next, with headquarters at the Arlington Hotel. Arrangements have been made for rooms at the hotel for $4 and $5 a day, American plan. The delegates are requested to communicate with Mr. Bennett, manager, and secure reservations, and also notify the legislative committee through its chairman, Dr. H. L. E. Johnson, that they will be present at the time appointed.

Hotel Accommodations in Atlantic City.—The communications received from the leading hotels of Atlantic City in reply to inquiries made by the Hotel Committee are most satisfactory expressions of the readiness of hotel managers to make the members of the Association and their families as comfortable as possible during their sojourn in the city. The Committee sent to the principal houses printed forms to be filled in, thus securing clear statements as to rates and precluding all possibility of any annoying overcharges or "extras" appearing later on the bills of their guests. In almost all the hotels named in the subjoined list special and reduced rates are appended:

Name.	Capacity.	Rates Per Day. Single.	D[illegible]
Albemarle	350	$2.50	$4.0[illegible]
Atglen	200	2.00	[illegible]
Avon Inn	200	2.50—[illegible]	[illegible]
Brexton	300	2.50	[illegible]
Brighton	300	3.50	
Berkley	300	3.00	

Name	Capacity.	Rates Per Day.	
		Single.	Double.
Belmont	300	3.00	5.00
Bleak House	300	3.00—5.00	5.00— 6.00
Boscobel	150	2.50	4.00
Cornell Inn	200	2.00	6.00
Chalfonte	250	3.00—4.00	6.00— 7.00
Canfield	50	2.00	4.00
Colonial	80	2 50	5.00
Dennis	425	3.00—5.00	6.00—10.00
DeVille	300	2.50—3.00	5.00— 6.00
Edison	50	2.00	3.50
Garden	300	3.00—5.00	5.00— 8.00
Grand Atlantic	600	3.00	6.00
Glaslyn	300	3.00	5.00
Holmhurst	300	3.00	5.00
Haddon Hall	450	3.00—5.00	6.00—10.00
Hotel Esmond	150	2.00—3.50	4.00— 6.00
Irvington	200	2.00	4.00
Imperial	300	2.50—3.00	4.00— 6.00
Lelande	250	2.50	4.50
Laurence	200	2.00—3.50	4.00— 6.00
Loraine	250	3.00	5.00
Luray	400	3.00 up	6.00 up
LaBelle Inn	125	2.00—2.50	4.00— 5.00
Morton	250	2.00—3.00	4.00— 6.00
States Villa	65	2.50—3.00	4.00— 5.00
Majestic	250	2.50—3.00	4.00— 5.00
New England	350	3.00	5.00
Oriental	150	3.00	5.00
Ponce de Leon	300	2.50—3.00	5.00— 6.00
Pennhurst	150	2.50—3.00	5.00— 6.00
Pierrepont	350	3.00—4.00	5.00— 6.00
Raleigh	300	2.50	4.00
Raymond	125	2.00	4.00
Runnymede	200	2.50	4.00
Revere	100	2.50	5.00
Rudolf	600	3.00—4.00	8.00
Richmond	290	2.50	4.00
Royal Palace	500	3.50 up	7.00 up
Sea Bright	100	2.00—2.50	4.00— 5.00
Shelburne	350	3.00—4.00	6.00— 7.00
St. Charles	325	3.50	6.00
Senate	250	3.00	5.00
Strand	250	2.50	5.00
Seaside House	300	3.00—4.00	6.00— 8.00
Scarborough	250	3.00	5.00
Stickney	150	2.00	3.50
Traymore	450	3.50—5.00	7.00—10.00
Westminster	200	2.50	4.00
Wiltshire	300	2.50	4.00
Windsor	300	3.50 up	7.00 up
		CHELSEA.	
Board walk connects with		Meeting Hall.	
Chelsea	500	4.00	7.00
Gladstone	300	3.00—7.00	5.00—10.00
Ravenroyd	85	2.00	4.00
St. John	125	3.00	6.00
Savoy	300	3.00—4.00	6.00— 7.00

In order to assure our members that their convenience has been carefully studied it is well to state that the above list includes only the principal hostelries from half a square to twelve squares distant from the main rendezvous of the Association. All are in close proximity to the board walk, which famous marine promenade leads directly to all points of interest. The scale of prices for accommodations will be found most moderate for the season, and when it is added that the necessarily limited list excludes all mention of hundreds of smaller hotels and boarding-houses in Atlantic City, it is plain that visitors will have wide latitude for choice. All may come assured of comfort and convenience at rates varying from $1.50 per diem to the highest figures quoted in the above list. It should perhaps be added that visitors who desire to stay in the hotels of the quiet and beautiful Chelsea suburb will find, in the electric cars, easy transportation to and from the meetings—the cars taking them within two squares of all such points. Then the city's copious omnibus service, with ten-cent fares affords unusual facilities for the transport of individuals or parties in all directions, and at all hours. The Committee recommends that application for rooms be made directly to the hotels, but they hold themselves ready to attend promptly to any correspondence and to furnish any special information that may be required.

Emery Marvel, M.D., Chairman, 811 Pacific Avenue.

Section on Surgery and Anatomy.—The titles of papers thus far received for the Section on Surgery and Anatomy, for the meeting at Atlantic City, N. J., June 5-8, 1900, are as follows:

A New Leg Splint—Edward A. Tracy, South Boston, Mass.

Appendiceal Fistula—John B. Deaver, Philadelphia.

Surgical Shock: Second Paper—Fenton B. Turck, Chicago.

Auto-Irrigations of Urethra and Bladder—Ferd C. Valentine, New York City.

Treatment of Obstinate Constipation, Dependent on New Points in Anatomy and Histology of Rectum and Colon—Joseph M. Mathews, Louisville, Ky.

Anatomy of Hanging—E. W. Holmes, Philadelphia.

Gall-Bladder—M. H. Richardson, Boston.

Ligation of Carotid—W. P. Nicholson, Atlanta, Ga.

Dislocation of Thumb—H. R. Wharton, Philadelphia.

Drainage of Lung Cavities—W. S. Willis.

Dislocations—A. D. Bevan, Chicago.

Injection Cure of Hernia—G. G. Cotton.

Old Age Influencing Surgical Operations—J. P. Tuttle, New York City.

Report of Case of Specific Myositis, Simulating Retroperitoneal Sarcoma—Ernest Laplace, Philadelphia.

Colostomy for Permanent Fecal Fistula—John A. Wyeth, New York City.

Non-Perforating Gastric Ulcer, With and Without Hemorrhage—W. L. Rodman, Philadelphia.

Removal of Mucous Membrane of Gall-Bladder, a Substitute for Cholecystectomy—William J. Mayo, Rochester, Minn.

Proctoscopy at the Bedside, by Means of a New Device—Thomas Charles Martin, Cleveland, Ohio.

Restitution of Continuity of Shaft of the Tibia, by Transplantation of Patella Between the Fragments—N. Senn, Chicago.

Destruction of Cancerous Growths Within Organs by Cataphoric Sterilization, Without Removal of the Unaffected Portions of the Organs—G. Betton Massey, Philadelphia.

Coccygeal Dermoids—J. R. Eastman, Indianapolis, Ind.

Cystitis—C. C. Thayer, Clifton Springs, N. Y.

Bone Tuberculosis—DeForrest Willard, Philadelphia.

Cure of Functional Impotence—J. Murray, Clearfield, Pa.

Fractures of the Patella—J. M. Barton, Philadelphia.

Presentation of Surgical Table—A Munger, Spencer, Iowa.

Operative Treatment of Diseases of Shafts of Long Bones—Stewart L. McCurdy, Pittsburg, Pa.

Moveable Kidney—M. L. Harris, Chicago.

Vesicorectal Anastomosis for Exstrophy of Bladder, With Report of Case—A. E. Halstead, Chicago.

Treatment of Hernia in Children—A. J. Ochsner, Chicago.

Exclusion of Intestinal Area from Fecal Tract—J. B. Murphy, Chicago.

Treatment of Injuries of Ureter—B. B. Davis, Omaha, Neb.

Comments on Appendicitis as Commonly Practiced—Joseph Price, Philadelphia.

Tuberculosis of Prostate and Vesiculæ Seminales—Albert I. Bouffleur, Chicago.

Ambulatory Treatment of Fracture With Demonstration of a New Apparatus for Ambulatory Treatment of Fractures Below the Knee—Edward H. Lee, Chicago.

Skiagraphic Errors in Surgery—Carl Beck, New York City.

Section on Materia Medica, Pharmacy and Therapeutics.—The following program is announced for this Section, at the coming meeting of the Association:

Chairman's Address—L. L. Solomon, Louisville, Ky.

Title to be announced—E. G. Janeway, New York City.

Heart Tonics—J. N. Upshur, Richmond, Va.

Symposium of the Newer Remedies, Including their Chemistry, Physiologic Action and Therapeutic Applications, together with New Applications of Some of the Older Remedies—J. W. Wainwright, New York City.

Aconite—E. C. Brush, Zanesville, Ohio.

Action of Chloralose as a Hypnotic—James Tyson, Philadelphia.

Neglect of Old Remedies—Herschel Fisher, Lebanon, Ohio.

Treatment of Chronic Interstitial Nephritis—Chas. Lyman Greene, St. Paul, Minn.

Therapeutics of Croupous Pneumonia—J. M. Allen, Kansas City, Mo.

Therapeutic Progress—J. Tracy Melvin, Saquache, Colo.

Relative Value of Various Forms of Local Treatment in Erysipelas—H. A. Hare, Philadelphia.

Some Dangers from the Use of Narcotics in Young Persons—T. D. Crothers, Hartford, Conn.

Treatment of Gastric and Duodenal Ulcer—F. L. Shattuck, Boston, Mass.

Therapeutics of Vertigo—Leonard Corning, New York City.

Use of Adhesive Plaster in Various Internal Conditions—J. H. Musser, Philadelphia.

Pharmacology and Ethics—F. E. Stewart, New York City.

Gastrointestinal Remedies in Typhoid Fever—J. M. Anders, Philadelphia.

A Protest Against the Use of Patented Synthetics and Proprietary Remedies—D. R. Brower, Chicago.

Importance of Early Recognition of Tuberculosis—A. M. Holmes, Denver, Colo.

Present Views on the Use of the Unbroken Skin as an Absorbing Medium—T. F. Reilly, New York City.

United States Pharmacopeia of 1900—Jos. P. Remington, Philadelphia.

Therapeutic Application of the Organic Extracts—O. T. Osborne, New Haven, Conn.

Classification of Medicines Based on the Time Required to Produce Their Effects—W. H. Thompson, New York City.

Dietetic Treatment of Diabetes—N. S. Davis, Jr., Chicago.

Plea for Greater Simplicity in Therapeutics—L. F. Bishop, New York City.

Rôle of Drugs in Management of Consumption—S. Solis-Cohen, Philadelphia.

Pharmaco-Physiologic Action of Drugs as Contrasted with Their Alleged Specific Action—Geo. F. Butler, Chicago.

Treatment of Alcoholism by Large Doses of Digitalis—H. P. Loomis, New York City.

Ointments—Frank Woodbury, Philadelphia.

Pharmacologic Assay of Drugs and Its Importance in Therapeutics—E. M. Houghton, Detroit, Mich.

Psychic Therapeutics—J. C. Culbertson, Cincinnati, Ohio.

Hydriatic Treatment of Chronic Disorders—J. H. Kellogg, Battle Creek, Mich.

Treatment of Addison's Disease, with Case—John V. Shoemaker, Philadelphia.

Irrigation of Colon as a Therapeutic Measure—Geo. J. Lochboehler, Washington, D. C.

Therapeutic Skepticism—H. V. Sweringen, Fort Wayne, Ind.

Lavage of Stomach as a Therapeutic Measure in Treatment of Constipation—C. D. Spivak, Denver, Colo.

Therapy of Malignant Cases of Acute Infections—J. C. Lange, Pittsburg, Pa.

Treatment of Migraine—E. W. Mitchell, Cincinnati, Ohio.

Some Points in Treatment of Gastric Ulcer—D. D. Stewart, Philadelphia.

Title to be Announced—W. B. Hill, Milwaukee, Wis.

Title to be Announced—C. C. Yarbrough, Detroit, Mich.

Title to be Announced—T. H. Stucky, Louisville, Ky.

Value of Potassium Bicarbonate in Practice—Stephen Harnsberger, Catlett, Va.

Decadence of the Crude Drug—Lucius E. Sayre, Lawrence, Kan.

The Metric System—F. G. Wheatley, North Abington, Mass.

Management of the Third Stage of Diabetes Mellitus, and of the Coma Diabeticum, also Dietetic Treatment of Cyclic Albuminuria—H. Stern, New York City.

The Pharmacopeia, the Medical Journal and the Profession—A. L. Benedict, Buffalo, N. Y.

Deaths and Obituaries.

Benjamin F. Leonard, M.D., died in Baltimore, Md., April 10, of pneumonia. He was born April 14, 1847, educated at West River Institute, took the degree of M.D. at the University of Maryland School of Medicine in 1876, and pursued post-graduate study at the College of Physicians and Surgeons, Baltimore, and at Bellevue Hospital Medical College, New York City. He became a member of the Medical and Chirurgical Faculty of Maryland in 1877 and was later professor of diseases of women and children in the Baltimore Medical College. He latterly paid most attention to diseases of the rectum.

Holly R. Winchester, M.D., a graduate of the Baltimore University School of Medicine, 1890, committed suicide near Annapolis, on the 9th inst., by shooting himself. He had been in ill-health for some time. For some years he practiced in Chicago, but since 1896 had been practicing in Annapolis.

Charles D. Bradley, M.D., Chicago, died April 7, aged 49 years. He was born in Quebec, Canada, and came to Chicago fifteen years ago. Soon after establishing himself here he became a member of the staffs of St. Joseph's and St. Anthony's hospitals, and was made chief surgeon to the House of the Good Shepherd and St. Vincent's Orphan Asylum.

Frank D. Kimball, M.D., aged 24 years, for two years house surgeon of the City Hospital on Blackwell's Island, N. Y., died April 12, from suppurative meningitis resulting as a complication of influenza. He was a graduate of Dartmouth College and the University Medical College, New York City.

Charles C. Eastman, M.D., Geneva Medical College (now extinct), 1866, assistant manager of the Binghamptom (N. Y.) State Hospital for the Insane, died in that town, April 12. He had been connected with the institution since its establishment, in 1869.

Robert Francis Cunnion, M.D., College of Physicians and Surgeons, N. Y., 1892, of Brooklyn, N. Y., died in that city April 7, aged 30 years.

W. D. Brengle, M.D., of Henry County, Va., formerly of Frederick County, Md., died near Ridgeway, Va., April 9, of heart disease. He was 62 years old.

George H. Conklin, M.D., died April 12, at Babylon, N. Y. He was born in 1811.

Willis H. Hunt, M.D., Camden, N. J., died April 11, aged 45 years.

James Phelps Bing, M.D., Portsmouth, Ohio, died April 8, aged 78 years.

Miscellany.

Medical Pigeon Service.—Dr. Bonenfant of Linselles, Nord, France, writes to the *Gaz. Méd.* that he has been using carrier pigeons since 1894. He has a small office in a village nearly three miles distant, where the sick in the neighborhood apply when they need him. The caretaker of the office despatches a pigeon to him with the various calls, before he leaves home, so that he can plan his route and save much time and trouble.

Best Means of Preventing Disease and Deformities.—Professor Hegar comments admiringly on the legislation in North Dakota and Michigan prohibiting marriage to persons known to be idiots or insane or affected with still uncured gonorrhea or syphilis, and hails it as a great progress, in an article with the above heading in the lay magazine, *Deutsche Revue* (xxv, 1). He observes that animals are incapable of looking out for the welfare and health of their young, and man does it for them by judicious breeding. "Man degrades himself to the level of an animal when he neglects to do this for his own offspring." Hegar hopes to see public opinion educated until marriage between relations or persons resembling each other too closely will cease to occur. He adds that even a good point, doubled in the descendants by inheritance from both progenitors, may be so exaggerated as to be a defect. He would like to see marriage prohibited by legislation to all persons with a deformity, an infirmity, a disease or an intoxication, whenever appreciable and permanent injury to the descendants may be anticipated. He considers improvement and cure more probable with tuberculosis and alcoholism than in case of syphilis. "Continuous general good health indicates that recovery is complete." He includes among the infirmities which should bar marriage the growing together of fingers and toes, hare-lip, cleft palate, diseases of the blood, epilepsy, insanity, idiocy and perverse sexual characteristics. "Crossing with good blood is too long and uncertain a process and it is unjust to the good blood to mate it with disease." "We build sanatoria to remedy effects, when by keeping city streets free from dirt and dust and giving the poor sani- [illegible] homes would accomplish far more by eradicating [illegible] and by bolting the door against the [illegible] diseased children—congenital martyrs who may in turn propagate others—diseases and deformities would be reduced in geometrical progression."

BOOKS AND PAMPHLETS RECEIVED.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interests of our readers.

A Cyclopedia of Practical Medicine and Surgery. A Concise Reference Book, Alphabetically Arranged, of Medicine, Surgery, Obstetrics, Materia Medica, Therapeutics, and the Various Specialties, with Particular Reference to Diagnosis and Treatment. Compiled under the Editorial Supervision of George M. Gould, A.M., M.D., and Walter L. Pyle, A.M., M.D., Assistant Surgeon to Wills Eye Hospital. 73 Contributors. Quarto. Illustrated. Sheep or *Half Dark Green Leather, $10*: Thumb Index, $11. Half Russia, Thumb Index, $12. Philadelphia: P. Blakiston's Son & Co. 1900.

Diseases of the Stomach. Their Special Pathology, Diagnosis, and Treatment, with Sections on Anatomy, Physiology, Chemical and Microscopic Examination of Stomach Contents, Dietetics, Surgery of the Stomach, etc. By John C. Hemmeter, M.D., Professor in the Medical Department of the University of Maryland, Baltimore. With many original illustrations, a number in colors. Second Edition. Enlarged and Revised. Octavo. Pp. 898. Cloth. Price, $6 net. Philadelphia: P. Blakiston's Son & Co.

Essentials of Surgery, Together with a Full Description of the Handkerchief and Roller Bandage. Arranged in the Form of Questions and Answers. *Prepared Especially* for Students of Medicine. By Edward Martin, A.M., M.D., Clinical Professor of Genito-Urinary Diseases in the University of Pennsylvania. Illustrated. Seventh Edition, Revised and Enlarged, with an Appendix Containing Full Directions and Prescriptions for the Preparation of the Various Materials used in Antiseptic Surgery; also Several Hundred Receipts Covering the Medical Treatment of Surgical Affections. Cloth. Pp. 335. Price, $1. Philadelphia: W. B. Saunders. 1900.

Elements of Clinical Bacteriology. For Physicians and Students. By Ernst Levy, M.D., Professor in University of Strassburg, and Felix Klemperer, M.D., Private Docent in University of Strassburg. *Second Enlarged and Revised Edition.* Authorized Translation by Augustus A. Eshner, M.D., Professor of Clinical Medicine in Philadelphia Polyclinic. Cloth. Pp. 425. Price, $2.50. Philadelphia. W. B. Saunders. 1900.

Twentieth Century Practice. An International Encyclopedia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M.D., New York City. In Twenty Volumes. Volume XIX. "Malaria and Micro-Organisms." New York: William Wood & Company. 1900.

Anesthetics, Their Uses and [illegible] Wilmot Buxton, M.D., B.S., Member [illegible] lians. Third Edition. Cloth. Pp. 320. [illegible] P. Blakiston's Son & Co. 1900.

On Diabetes Mellitus and Glycosuria. By Emil Kleen, Ph.D., M.D. Octavo. Pp. 313. Price, Cloth $2.50 net. Philadelphia: P. Blakiston's Son & Co. 1900.

International Medical Annual and Practitioner's Index: A Work of Reference for Medical Practitioners. Pp. XII, 748. Price, $3. New York: E. B. Treat & Co. 1900.

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., March 30 to April 6, 1900, inclusive:

Wm. H. Arthur, major and surgeon, U. S. A. in addition to his present duties is assigned as medical superintendent of the army transport service at San Francisco, Cal.

Lawrence C. Carr, major and surgeon, Vols., now at Santiago, Cuba, to duty as chief surgeon, Department of Santiago and Puerto Principe

Calvin DeWitt, lieutenant-colonel, deputy surgeon-general, U. S. A., relieved from duty as chief surgeon of the Division of Cuba, to proceed to New York City, and report by telegraph to the adjutant-general for further orders.

Benjamin J. Edger, lieutenant and asst.-surgeon, U. S. A., from the Military Academy, West Point, N. Y., to San Francisco, Cal., for duty in the Department of California.

Charles G. Eicher, acting assistant-surgeon, now at Jefferson
Barracks, Mo., is relieved from further duty in the Department of
Puerto Rico and assigned to duty in the Department of California.

Valery Havard, major and surgeon, U. S. A., from the Depart-
ment of Santiago and Puerto Principe to Havana, Cuba, for duty
as chief surgeon of the Division of Cuba.

Thomas W. Jackson, acting asst.-surgeon, from Pinar del Rio
Barracks, Cuba, to New York City, thence to report by telegraph
to the adjutant-general for further orders.

Millard Langfeld, acting asst.-surgeon, former orders directing
him to proceed from Omaha, Neb., to San Francisco, Cal., re-
voked.

Willard S. H. Matthews, major and surgeon, Vols., now at the
Presidio of San Francisco, Cal., is relieved from further duty in
the Division of the Pacific and will report for duty as attending
surgeon and examiner of recruits at St. Paul, Minn.

Frank R. Maura, acting asst.-surgeon, from New York City to
the Department of California.

Albert L. Miller, acting asst.-surgeon, now at Jefferson Bar-
racks, Mo., is relieved from further duty in the Department of
Porto Rico and assigned to duty in the Department of California.

BOARD OF EXAMINERS CONVENED.

A board of medical officers, to consist of Major Valery Havard, surgeon, U. S. A.; Major William C. Gorgas, surgeon, U. S. A.; Major Jefferson R. Kean, surgeon, U. S. V.; and Capt. William W. Quinton, asst.-surgeon, U. S. A., is appointed to meet in the city of Havana, Cuba, May 1, 1900, for the examination of acting assistant-surgeons, U. S. A., who are candidates for admission into the medical department of the Army. The board will be governed in its proceedings by such instructions as may be communicated to it by the surgeon-general of the army.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ending April 7, 1900.

P. A. Surgeon J. C. Rosenbleuth, ordered to the *Wilmington*, sailing from New York City, April 5, to join ship at Rio de Janeiro, Brazil.

P. A. Surgeon F. C. Cook, detached from the *Wilmington* and ordered to proceed home by mail steamer.

Surgeon F. Urie, commissioned surgeon from October 25, 1899.

P. A. Surgeon W. M. Wheeler, commissioned passed assistant surgeon from May 27, 1899.

P. A. Surgeon D. N. Carpenter, commissioned passed assistant-surgeon from Oct. 24, 1899.

P. A. Surgeon F. L. Pleadwell, commissioned passed assistant-surgeon from Oct 25, 1899.

P. A. Surgeon W. F. Arnold, detached from the naval hospital, Norfolk, Va., and granted leave for three months.

P. A. Surgeon G. D. Costigan, detached from the naval hospital, Chelsea, Mass., and ordered to the Boston Navy Yard immediately.

P. A. Surgeon D. N. Carpenter, detached from the Boston Navy yard and ordered to the naval hospital, Chelsea, Mass., immediately

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the 7 days ended April 5, 1900.

Surgeon Eugene Wasdin, to proceed to Buffalo, N. Y., and assume command of the service.

P. A. Surgeon J. B. Stoner, relieved from duty at Buffalo, N. Y., and directed to proceed to St. John, N. B., for duty as medical inspector of immigrants.

P. A. Surgeon G. B. Young, granted two days' extension of leave of absence on account of sickness.

Asst.-Surgeon C. E. Decker, granted 29 days' leave of absence, on account of sickness from March 2.

Asst.--Surgeon Taliaferro Clark, on being relieved from duty at Tortugas quarantine, to proceed to New York City. (Stapleton) and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon John McMullen, on being relieved from duty at Louisville, Ky., to proceed to Tortugas quarantine and assume *command of the service.*

Asst.-Surgeon J. F. Anderson, relieved from duty at Barcelona, Spain, and directed to proceed to Marseilles, France, for duty.

Asst.-Surgeon M. K. Gwyn, relieved from duty at Chicago, Ill., and directed to proceed to Louisville, Ky., and assume command of the service.

Asst.-Surgeon G. M. Corput, upon being relieved from duty at Marseilles, France, to proceed to Washington, D. C.

Asst.-Surgeon C. W. Vogel, relieved from duty at New York (Stapleton), and directed to report to Surgeon L. L. Williams, Immigration Station, New York, for duty.

Acting Asst.-Surgeon G. H. Altree, granted leave of absence for three days.

Acting Asst.-Surgeon John T. Bullard, granted leave of absence for sixty days from April 3.

Acting Asst.-Surgeon S. B. Foster, granted leave of absence for one month from April 6.

Hospital Steward C. H. Woods, granted leave of absence for 15 days from April 6.

Hospital Steward W. F. Schlaar, granted leave of absence for 25 days from April 2.

APPOINTMENT.

Allan J. McLauglin, of New Jersey, commissioned as assistant-surgeon.

CHANGE OF ADDRESS.

Dr. J. H. Terrill, from Wichita, Kan., to 285 Main St., Dallas, Texas.
Dr. A. L. Porter, from 1010 Harrison to Rookery Bldg., Kansas City, Mo.
Dr. G. H. Litsinger, from Kansas City, Mo. to Milford, Kan.
Dr. G. T. Honaker, from St. Louis, Mo., to Panther, W. Va.
Dr. W. J. Bauer, from Marengo to Promice City, Iowa.
Dr. D. M. Scanlan, from Chicago, Ill., to Lost Nation, Iowa.
Dr. W. M. McCoy, from Chicago, Ill., to Clinton, Iowa.
Dr. L. Sayre, from Indianapolis, Ind., to Lake Mills, Iowa.
Dr. J. L. Cook, from Keokuk to Calamus, Iowa.
Dr. E. C. Weir, from Iowa City to Vail, Iowa.
Dr. A. H. Peters, from Keokuk, Iowa, to Hillsdale, Ill.
Dr. W. W. Goodrich, from Des Moines to Mingo, Iowa.
Dr. J. B. Patrick, from Atlanta to Pembrooke, Ga.
Dr. W. A. Brewster, from Augusta to Crescent, Ga.
Dr. F. W. Gale, from St. Louis to Marquand, Mo.
Dr. J. R. W. Kerr, from St. Louis, Mo., to Mt. Pleasant, Miss.
Dr. D. S. Knox, from Augusta, Ga, to Antreville, S. C.
Dr. S. M. B. Smith, from Chicago, Ill., to Ft. Atkinson, Wis.
Dr. F. P. Knauf, Chicago, Ill., to Chilton, Wis.
Dr. E. M. Hurst, from Chicago, Ill., to Meridian, Ind.
Dr. B. H. Leuhrsman, from Chicago, Ill., to Norway, Iowa.
Dr. M. F. Dorsey, from Chicago to Amboy, Ill.
Dr. J. M. Byne, from Augusta to Waynesboro, Ga.
Dr. L. Halpert, from Augusta, to 565 W. Bay St., Savannah, Ga.
Dr. G. H. Buffington, from Keokuk, Iowa, to Pleasanton, Kan.
Dr. O. H. Urstad, from Indianapolis, Ind., to Lake Mills, Iowa.
Dr. H. L. Warwick, from Augusta to Claxton Ga.

The Journal of the
American Medical Association

VOL. XXXIV CHICAGO, ILLINOIS, APRIL 28, 1900. No. 17.

Original Articles.

PERIPHERAL RESECTION OF FIFTH NERVE.*

THREE CASES WITH MICROSCOPIC EXAMINATION OF THE PORTIONS OF THE NERVES REMOVED AND REPORT ON THE LATER CONDITION OF PATIENTS.

BY W. W. KEEN, M.D., LL.D.,
PROFESSOR OF THE PRINCIPLES OF SURGERY AND OF CLINICAL SURGERY, JEFFERSON MEDICAL COLLEGE.
AND
WM. G. SPILLER, M.D.
PROFESSOR OF DISEASES OF THE NERVOUS SYSTEM IN THE PHILADELPHIA POLYCLINIC, ASSOCIATE IN THE PEPPER CLINICAL LABORATORY, UNIVERSITY OF PENNSYLVANIA.
PHILADELPHIA.

DR. KEEN'S REPORT.

CASE 1.—*Resection of supraorbital and infraorbital nerves for tic douloureux.*

Mrs. A. K., aged 53, a patient of Dr. S. Weir Mitchell, first came to the clinic of the Infirmary for Nervous Diseases, Feb. 11, 1898. She had always been healthy and of her eleven children, six were living and well.

In October, 1894, she felt a sudden, slight tingling sensation at the internal angle of the right eye. This increased in severity and finally included the entire right face and anterior part of the scalp. She had to sit up, as lying down increased the pain so much. In 1895 she was very much better. In 1896, she had scarcely any pain at all, but on Feb. 4, 1898, it suddenly recommenced and she had suffered ever since. Along with the pain there were spasmodic twitchings of the muscles about the right eye, and of the face, as long as the pain lasted. On March 3, 1898, I removed the supraorbital and infraorbital nerves, the latter by the orbital route, dividing the nerve toward the apex of the orbit. On Jan. 9, 1899, she again reported at Dr. Mitchell's clinic. She had suffered no pain after the operation, for eleven months, then had a recurrence for two months, accompanying la grippe. In the last two weeks she had had another recurrence, but the pain was neither severe nor constant.

CASE 2.—*Resection of the infraorbital and inferior dental nerves for tic douloureux after ineffectual treatment by massive doses of strychnin.*

Mrs. M., Princeton, N. J., aged 62, first consulted me Dec. 1, 1898, at the instance of Dr. James H. Wikoff. Twenty years ago she had a very serious hemorrhage from a uterine myoma, and a sister died after a hysterectomy for the same trouble. For ten years she had been a great sufferer from hemorrhoids, attended with profuse hemorrhages. She also has a femoral hernia. Ten or fifteen years ago, without assignable cause, a sudden partial palsy of the left side came on, but yielded to treatment. For some time she has had a slight rise of temperature toward evening, and has been more or less of an invalid. The uterine myoma still persists, but has given her no trouble of late. Three years ago, without assignable cause, she began to have excessive pain in the groove between the nose and right cheek. It has now extended over the whole of the cheek and the lower jaw and also to the ear. The pain is the characteristic pain of tic douloureux and is caused by eating, conversation, etc.

Desiring, first, to test the effect of strychnin, which in several cases had enabled me to avoid operation, I commenced with 1/20 gr. t. d., adding one pill to the daily dose, so that the first day she would take three pills; the second, four; the third, five; etc. When she reached six pills a day, she was to add one pill every other day until she had reached ½ gr. a day or until the pain had ceased. Up to the time when she was taking 7/20 gr. a day, no relief from the pain had been experienced, nor had any strychnin symptoms developed. Ordinarily I have found these symptoms develop slightly at first, so as to give warning, but in this case the onset was sudden. Stooping down to pick up something from the floor, her legs were suddenly violently extended and her body was thrown some ten feet across the room. She suffered no injury as her husband fortunately caught her. The medicine was immediately discontinued, and she decided on operation.

This was performed on Dec. 31, 1898. By a slightly curved incision at the lower border of the orbit, the nerve was exposed in the orbit as well as on the face and 3 cm. of the infraorbital resected. I then trephined the lower jaw and removed 5 cm. of the inferior dental, including the mental and incisor branches. The canal in the bone at both ends was plugged with some of Horsley's antiseptic wax. She made a typical, smooth recovery, her temperature only once reaching 100 F., and she went home on Jan. 13, 1899, two weeks after the operation.

Two days after her return she learned, by an operation on her husband, that he had an inoperable internal cancer. She nursed him through the operation and for some time afterward, when he died. She wrote me under date of Feb. 19, 1900, that after the death of her husband she was obliged to build another home and move into it in September, 1899. This involved considerable planning, anxiety and care. Up to that time she had been entirely free from the facial pain, but the moving caused great mental and physical strain, and a return of the pain followed for some weeks. Recently, she has also had another attack of about the same duration, but when she wrote she was entirely free from it. In each instance, however, she had taken cold and suffered from much irritation of the throat and from cough. The pain seems to have been limited entirely to the lower jaw, and was especially provoked by conversation or eating. She lost no sleep, however, and by k[illegible]ng very quiet the pain lessened and fin[illegible] pea[illegible] came in spasms with a sensation "[illegible] w[illegible] vic and being twisted." Her relief from the pain, by the operation, was so great that she writes she would unquestionably seek relief again by another operation should it prove necessary.

---

*Read in a Symposium on the "Fifth Nerve in its Neurological and Surgical Relations," before the College of Physicians of Philadelphia, April 20, 1900.

Concerning the examination of her face made by Dr. Spiller, Jan. 10, 1899, after the operation, he says: "The anesthetic area begins about a quarter of an inch below the margin of the right lower lid. Complete anesthesia for touch, temperature and pain exists in the shaded area. (Fig. 1.) The anesthetic zone on the side of the face is sharply defined, as it is also in the median line of the face below the nose. It extends over the right ala nasi. Tactile sensation in the right nasal passage is much impaired. Tactile anesthesia is present on the inside of the lips, on the outer and inner surfaces of the lower gum, extending from the median line of the face to about the angle of the mouth. The upper gum appears to be anesthetic to touch on its outer and inner aspects from the midline of the face to about the angle of the mouth."

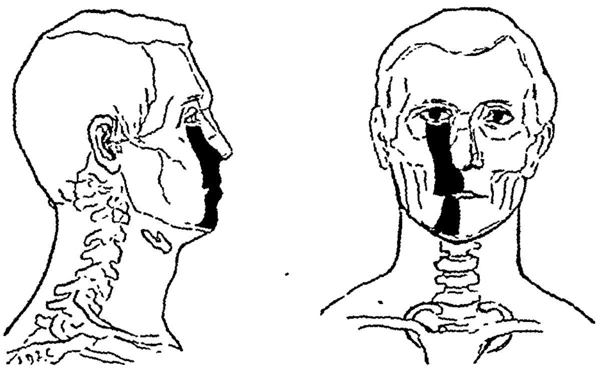


Figure 1.

Case 3.—*Resection of infraorbital and inferior dental nerves for tic douloureux after failure of massive doses of strychnin.*

Miss N., aged 28, first consulted me in the early part of 1898, at the instance of Dr. Kinard, of Lincoln, Pa., for tic douloureux, limited to the infraorbital and inferior dental nerves of the right side. As in Case 2, I wished to test the effect of strychnin before proceeding to operation. She began the treatment under Dr. Kinard's direction on May 9, and continued it up to Jan. 26, 1899. She began with 1/40 gr. t. d., increasing one pill every day until she was taking 8/40 gr. As she then began to feel some of the effects of the strychnin, the dose was not increased, but she took eight granules a day for five months. The strychnin was then increased to nine, and after a week to ten, a day. After taking 10/40 gr. a day for two days, she complained that she felt very nervous and weak, and the arms and legs trembled. The number was then reduced by Dr. Kinard, first, to nine and then to eight granules up to January 26. Finding that the strychnin was inefficient, she then desired operation.

She entered the Jefferson Medical College on Jan. 27, 1899, when the following history was elicited: Her father and mother were both living and well, between 50 and 60 years of age; also nine brothers and sisters. She had the ordinary diseases of childhood, including diphtheria, and made good recoveries, but no other illness till the present trouble began. Menstruation began at 13, and has always been regular but painful; occasionally she had leucorrhea. There was no evidence of any venereal trouble. Nine years ago, she began to have pain on the right side of the face. At first it occurred in brief paroxysms at long intervals, being apparently caused by eating food which was either very hot or very cold, or by exposure to draughts of cold air. The pain began above the right ala of the nose, and was sharp and shooting in character. Gradually the paroxysms became prolonged and the pain spread over the entire right face, except the forehead, which has rarely been involved. For the last three years she has suffered almost constantly, though with slight lessening of severity for short intervals, but the pain has never disappeared entirely. The upper teeth on the right side were extracted three years ago and last spring the lower teeth, but without the least relief. When the pain is most severe she states that the sputum is tinged with blood and mixed with a slight amount of yellowish thick discharge, and that there is a very marked overflow of tears from the right eye. The urine was normal.

On January 29, Prof. H. A. Hare, at my request, examined her lungs and found an impairment of resonance on the right side. Respiration was so defective that nothing could be observed by auscultation. Examination of the right ear, by Dr. Klopp, gave a negative result. Dr. Jones also examined her mouth and throat and found only a slight catarrh. Dr. Jones informed me that he had examined her two years before and had then opened the antrum with a view of determining whether there was any antral disease, but found nothing. I transilluminated the antrum and found nothing abnormal.

Operation was performed on Feb. 1, 1899. The infraorbital and inferior dental were resected as in the preceding case. The portion of the infraorbital measured 2.5 cm. and of the inferior dental 5 cm. in length. After the operation, her temperature only once exceeded 99.8 F., and at the end of a week she was entirely well.

Under date of Feb. 28, 1900, she wrote that two months before she had a renewed attack of pain, but not so severe as before the operation. The attack was limited to the upper jaw, the lower one being entirely free. When the pain is severe in the upper jaw, she has pain in the right ear and she said: "The attacks are very easy to bear. I must say I had the best year this last year that I have had for long. I would accept another operation if I should find the need of it again."

Remarks.—The history of these cases is the usual history surgically that has been impressed on me by very many operations. The relief is scarcely ever permanent, but at the same time is so great that patients do not hesitate to accept a second operation in view of the great relief they have had from the intense suffering. In spite of only the transitory relief, I believe it is wise to do these peripheral operations until the mortality of Gasserian operations has been materially lessened.[1] For my reasons see a paper by Dr. Spiller and myself in the *Amer. Jour. Med. Sci.*, November, 1898. These peripheral operations ought to be done early before the disease has had time to invade the ganglion. Very early operations, say after a month or two of ineffectual medication, might even cure permanently.

The nerve is sometimes reproduced with surprising completeness. In two cases I operated on the inferior dental, for Dr. S. Weir Mitchell, on two successive days. After three years I had to operate again on one case and after six years on the other. In each patient I had removed three small buttons of bone from the lower jaw, 1 cm. in diameter, and chiseled away the intervening bridges of bone. The reproduction of the bone was so perfect that had I not done the operations myself I might even have doubted whether any operation had ever been done. In both I found a complete reproduction of the nerve of a size even larger than that found at the first operation. Both were resected again. The specimens were given to a pathologist, from whom, unfortunately, I never could obtain a report in spite of the very unusual and interesting character of the specimens. One of the patients has had slight recurrences, but never severe enough to require another operation. The other had quite a severe return of pain, which was to some extent relieved by the constant current. Finally she died without ever having required a third operation. In another patient on whom I recently operated for the second time, the first operation having been done by another surgeon, I trephined the inferior maxilla, but found no reproduction of the nerve whatever, though the bone was entirely reproduced.

One protest I must make. In nearly every case all the teeth have been extracted. I have never seen the slightest good result from this utterly needless sacrifice.

DR. SPILLER'S REPORT.

CASE 1.—My report of the nerves resected in this case, with illustrations, was published in a paper by Dr. J. K. Mitchell.[2] in 1898, and is reproduced here for the sake of completeness:

> Many, possibly most, of the nerve-fibers of the infraorbital nerve, when separated from one another by teasing and stained by a 1 per cent. solution of osmic acid, are found to contain numerous black balls, approximately of the same size. These are nearly equidistant from one another, and are located along the edges of the fibers, leaving, as a rule, the centers free from such accumulations. (Fig. 2). When the focus of the lens is changed, so as to bring other portions of the fibers into view, black balls are apparently found within the centers, but these are probably along the superficial and deep portions of the fibers. The medullary sheaths are thus broken into numerous masses of nearly equal size, occupying the normal position of the myelin sheaths. It is exceptional to find masses of degenerated myelin of a size so large as is frequently seen in degenerating fibers. Similar lesions are found in the supraorbital branch of the fifth nerve. Inasmuch as these nerves were taken from the living subject, and placed immediately afterward in osmic acid, these myelin balls can not be regarded as artefacts, or as due to surgical intervention. Such intervention causes a breaking of the fibers into irregular masses, but probably not the fragmentation of the myelin into numerous balls.
>
> Sections cut with the microtome and stained with carmin and Delafield's hematoxylin show more or less round-cell infiltration about the small vessels. The coats of the smallest vessels are not notably thickened, but one vessel of large size, found in some of the sections, presents a thick media and a somewhat proliferated intima. In some of the nerve-fibers pale purple bodies are found, which resemble the amyloid bodies, and lend some support to the view that the latter are degenerated nerve-fibers. Most of the nerve-fibers contain axis-cylinders, though in some these can not be seen.
>
> The hematoxylin method of Weigert, used on transverse sections, reveals the presence of the myelin balls within the nerve-fibers in the same manner as the osmic acid shows them in longitudinal sections. They appear as a circle of beads about the axis-cylinder. The nerve-fibers in some bundles appear to be fewer than normal, though this may be due to degeneration of the myelin and therefore imperfect adaptability to the hematoxylin stain.

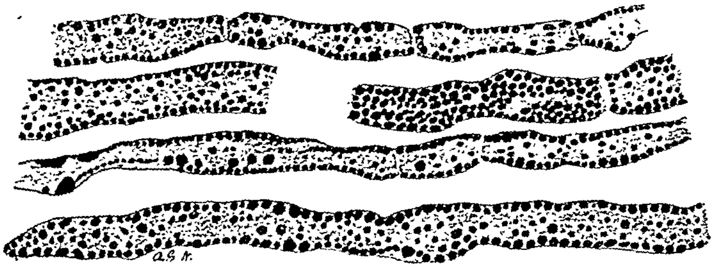


Fig. 2. Degeneration of the medullary sheaths in the form of minute balls stained black by osmic acid.

CASE 2.—The blood-vessels, even the smallest, in the infraorbital nerve are thickened and the intima is greatly proliferated, considerably reducing the size of the lumen, but the proliferation of tissue is not confined to any one coat of the vessel. The elastic membrane is much thickened and, in some places, in one of the larger vessels three or more separate elastic membranes are seen. The nerve-fibers, when stained by ammonium-carmin or Weigert's hematoxylin do not appear to be much altered, although occasionally a slightly swollen axone may be seen. In pieces of the nerve teased in the fresh state and stained with osmic acid the disintegration of the myelin in the form of small black balls is found in a number of fibers, and in some nerve-fibers black balls of a little larger size exist. The description of the infraorbital nerve answers very well for the inferior dental.

This was a case in which the peripheral nerve-fibers were very slightly diseased, although the vessels accompanying the nerves were much thickened.

CASE 3.—Infraorbital nerve: Many of the medullary sheaths are greatly swollen, the axones in a number of nerve-fibers are absent, and these swollen fibers in transverse section appear somewhat granular. In some nerve-fibers the axones are very much tumefied. When stained with Weigert's hematoxylin many of the nerve-fibers in transverse sections appear unusually large, and some stain unevenly in shades of black and brown. These large swollen fibers are mingled with small nerve-fibers which stain faintly with the hematoxylin. In some of the nerve bundles the nerve-fibers are more nearly normal. The intima of the small vessels is proliferated. No very distinct round-cell infiltration is seen. *Inferior dental:* This nerve is less diseased than the infraorbital. The intima in the small vessels is proliferated. The axones are distinctly swollen in a number of the nerve-fibers, but the great tumefaction of the medullary sheaths with destruction of the axones is not nearly so common as in the infraorbital nerve. Round-cell infiltration is not prominent.

In two cases of trifacial neuralgia, in one of which resection of the peripheral nerves was done by Dr. John B. Roberts, and in the other by Dr. W. J. Taylor, I have found the black balls of myelin described in the other cases. I have failed to find these black balls of myelin only in one of the cases studied by me, in which resection of the peripheral branches of the fifth nerve was done for the relief of tic douloureux. This was a case of Professor Keen's, in which the pain had existed for twenty years.

I have repeated the description of the nerves in Case 1 because of the important findings in this case. When this report was published lesions of this character had not been described. I have since seen this alteration in diseased ulnar nerve-fibers removed after the death of the patient, and this alteration may therefore occur in any diseased peripheral nerve. It is not an artefact because I have found it in several cases in which the nerves were placed in osmic acid immediately after they were removed from the living subject, and it is not due to any manipulation of the surgeon, because I have found it when the nerve was altered by disease and removed after the patient's death. Professor Obersteiner[3] has referred to my findings, both in print and in a discussion at a meeting of one of the medical societies of Vienna.

A somewhat, but not exactly, similar condition has been described by Elzholz.[4]

Case 2 was a very favorable one for a test of the benefit to be derived from early peripheral operations. The nerves were very slightly diseased, and, as Professor Keen has shown, the operation has given relief.

The relief in Case 3, in which the nerves were so greatly altered, is also an evidence that resection of peripheral portions of the fifth nerve is a justifiable operation.

Very distinct disturbance of sensation in the distribution of the infraorbital and inferior dental nerves was found ten days after resection of these nerves in Case 2, and in my patient, who had formerly been under Dr. Mills' care, and in whom these nerves were resected by Dr. Roberts, the disturbance of sensation after the operation was in the same distribution. Sensation, however, is not always lost after resection of a branch of the fifth nerve, and if lost may soon be recovered, and the recovery is not always due to the regeneration of the nerve. An interesting paper illustrating the truth of this statement has been published by J. K. Mitchell.[5] Quite a number of investigators believe that the facial nerve contains sensory fibers—a view which has been held especially by Frankl Hochwart. Some experimental work has been done to demonstrate the presence of these fibers. I quote from a paragraph in my chapter in "Progressive Medicine."[6]

> Many writers (van Gehuchten says most writers) now describe the facial nerve as in part sensory and in part motor. Retzius and, more recently, v. Lenhossék, have shown that the geniculate ganglion is like the cerebrospinal ganglion, and that the central processes of its cells pass into the nerve of Wrisberg. Van Gehuchten finds, by the method of chromatolysis, that the facial nerve at its exit from the stylomastoid foramen undoubtedly contains a certain number of sensory fibers which arise in the geniculate ganglion. The nerve of Wrisberg is, therefore, the sensory root of the seventh nerve. Amabilino (cited by van Gehuchten) has formed a different opinion. He believes that the peripheral processes of the cells of the geniculate ganglion pass into the chorda tympani, and that none of these pass into the peripheral branches of the facial nerve. Van Gehuchten points out that Amabilino found about one-fifth of the cells of the geniculate ganglion normal after section of the chorda tympani, and he very pertinently asks where these cells send their processes if not into the peripheral branches of the facial.

A recent case reported by Biehl[7] is further evidence that the facial nerve contains sensory fibers. A man was stabbed in front of the left ear and had, as a result of the injury, facial palsy with disturbance of sensation in the distribution of the seventh nerve. In this case an involvement of the fifth nerve was improbable.

Pain is not a rare occurrence in facial palsy from exposure to draught, and the explanation usually given is that the fifth nerve has suffered with the seventh. It is probable that in some cases the pain is due to disease of the sensory fibers within the seventh nerve.

Alteration of the peripheral branches of the fifth nerve has been detected in a number of nerves resected for trifacial neuralgia, but the cause of this alteration has not been determined. In two cases I found what appeared to be the explanation of this involvement of the nerve. One of the patients I examined told me that he had fractured his lower jaw, and that after he had entirely recovered from this injury he was attacked with diphtheria, following which pain began in the lower division of the fifth nerve. It seems possible that although the inferior dental nerve had recovered, it offered, as a result of the injury, less resistance to the poison of diphtheria than the nerve-fibers more commonly attacked in this disease; and therefore trifacial neuritis developed. In another of my patients the pain began in the portion of the face which had been the site of erysipelatous inflammation. Here it seemed as though a neuritis had been started by the erysipelas.

It is curious that the right trifacial nerve is more commonly attacked than the left. I noticed this peculiarity in reading the reports of the cases of Professor Keen and others, and at Professor Keen's suggestion Dr. M. B. Tinker has made an examination of the literature to determine the frequency of involvement of the right fifth nerve. In 108 cases in Dr. Tiffany's table, with 24 additional cases collected by Dr. Tinker and the 3 cases reported in this paper by Professor Keen and myself, making 135 cases in all, the affected side is given in 72. In 58 the right fifth nerve was diseased, and in 14 the left.

BIBLIOGRAPHY.

1. Am. Jour. of the Med. Sci., November, 1898.
2. Mitchell, J. K.: Jour. of Nervous and Mental Dis., 1898, p. 400.
3. Obersteiner: Jahresbericht über die Leistungen und Fortschritte auf dem Gebiete der Neurologie und Psychiatrie, Bericht über das Jahr, 1898, p. 247.
4. Elzholz: Jahrb. f. Psych., xvii, 3.
5. Mitchell: l. c., p. 392.
6. Progressive Medicine, Sept., 1899, p. 306.
7. Biehl: Wiener Klin. Woch., Feb. 8, 1900, p. 131.

ENDOTHELIOMA OF THE GASSERIAN GANGLION; TWO SUCCESSIVE RESECTIONS OF THE GANGLION; FIRST, BY THE EXTRADURAL (HARTLEY-KRAUSE) OPERATION, AND, SECONDLY, BY AN INTRADURAL OPERATION.*

CLINICAL REPORT BY F. X. DERCUM, A.M., M.D.
PROFESSOR OF NERVOUS AND MENTAL DISEASES, JEFFERSON MEDICAL COLLEGE; NEUROLOGIST TO THE PHILADELPHIA HOSPITAL.

SURGICAL REPORT BY W. W. KEEN, M.D., LL.D.
PROFESSOR OF THE PRINCIPLES OF SURGERY AND OF CLINICAL SURGERY, JEFFERSON MEDICAL COLLEGE, PHILADELPHIA.

PATHOLOGIC REPORT BY W. G. SPILLER, M.D.
PROFESSOR OF DISEASES OF THE NERVOUS SYSTEM IN THE PHILADELPHIA POLYCLINIC.
PHILADELPHIA.

DR. DERCUM'S CLINICAL REPORT.

The following case, both because of the rarity of the affection from which the patient suffered and because of the interesting nature of the symptoms, is worthy of record.

Mr. X., a business man, 32 years of age, married, a native of Louisville, Ky., came under my care on Nov. 20, 1899.

Family History.—The father died at 68 years of age, of some affection of the heart. The mother is living and well at 60, also a brother and sister. The family history is negative as regards mental, nervous and other diseases.

Personal History.—The patient was rather delicate as a baby, suffered from various diseases of childhood, had an attack of scarlet fever which resulted in disease of the ears, but in youth he seemed to be rather healthy. Twelve years ago he was said to have had an attack of typhoid fever. Some ten years ago he suffered from a venereal sore which was believed to be syphilitic, and although he never presented any secondary symptoms, he was for some time at Hot Springs, Ark., under treatment. The physician at this place, so we were informed, thought he did not have specific disease. He had also acquired gonorrhea on two occasions. When 20 or 21 years of age he went into business as a manufacturer and worked very hard, often day and night. He was a man of extremely nervous temperament, and was married in September, 1895. Subsequent to this time he complained greatly of severe shooting pains in his legs, and he occasionally walked with a limp. The pains were regarded as rheumatic, and he suffered from them in two successive winters. He had inflammation of the bowels in 1898 and was ill at this time some six or eight weeks. Subsequently he appeared to be well, very strong and energetic but for over a year past has complained of being tired at night and always wished to retire early. He would sleep heavily and without awakening during the entire night. General weakness became evident about this time and was very marked. At times he would have very severe headaches, especially in the mornings, but they would pass off after he had been up and around for an hour or two.

---

*Read in a Symposium on the "Fifth Nerve in its Neurological and Surgical Relations," before the College of Physicians of Philadelphia, April 20, 1900.

In February, 1898, he discovered a glandular swelling on the left side of the neck, about the size of an olive. It remained stationary for about eighteen months. Early in the summer of 1899 he began to lose in weight and to be extremely irritable and nervous. Various physicians who were consulted considered the glandular swelling tubercular, except one who thought it syphilitic and advised treatment at Hot Springs. He went there on July 1. About the time of his arrival he began to suffer from very severe pain over the left temple and over the left side of the top of the head. The swelling on the side of the neck also became painful; it had not pained him previously. It now began to grow and grew rapidly until it attained the size of a large egg. The pain in the temple was much worse in the evening and night, the patient not being able to sleep until about 4 or 5 o'clock in the morning. He took the baths and also had mixed treatment for seven weeks, while the swelling was painted with iodin. No relief whatever was obtained from this treatment. He then consulted Dr. Abbe, of New York, who removed a series of glands, varying in size from an olive down. These glands, as was subsequently learned from Dr. Abbe, were of a gray, even consistence, not unlike tubercle, but entirely without caseation. A microscopic examination was made at the College of Physicians and Surgeons of New York and endothelioma diagnosticated. Dr. Abbe very kindly sent me a section of one of these glands and I had no difficulty in confirming the diagnosis. The pain in the side of the head subsequently assumed the character of trifacial neuralgia and grew steadily worse. He was treated ineffectually with large doses of the iodids and morphia finally had to be resorted to.

On November 1 Dr. Abbe operated on him a second time, now removing the infraorbital division of the fifth nerve. The pain continued, though it appears to have been for a time less marked in the distribution of this branch. His suffering was so great that he was transferred to a sanatorium. Here his treatment was also without relief.

During the period of development of the neuralgia he had some recurrence of the shooting pains in the legs. For two months he had been in the habit, according to his wife, of dropping off to sleep suddenly. For instance, while talking, he would suddenly fall asleep. This condition was for a time quite marked. The wife herself attributed it to the great loss of sleep at night, thinking that he simply fell asleep in this way during the day from sheer exhaustion.

When first seen by me, Nov. 20, 1899, he was evidently suffering greatly from pain in the entire trigeminal distribution of the left side. The suffering was so terrible that he could not at this time be carefully examined. It was only after a certain amount of morphia had been administered on the following day that an examination could be made. Even after ¼ grain of morphia the pain was agonizing in character and constant, there being, according to the statement of the patient, not a single instant of relief. His expression, gestures and conduct evinced a degree of pain and suffering greater than I have ever before witnessed. The pain appeared to be most marked in the temple, the eyeball and the tissues about the orbit and the brow, less marked in the infraorbital distribution and least in the inferior maxillary distribution. The patient constantly kept the left eye covered by his left hand, and maintained a loud and almost ceaseless moaning and groaning. The suffering, as just stated, appeared to be most marked in the orbit and brow, though at times the patient said the greatest pain was present in the teeth of the upper jaw, more especially in the incisors. He often begged piteously for something to be done to the teeth to relieve them. The pain was accompanied by irregular recurring twitching of the zygomatic muscles. Occasionally this twitching also involved the elevators of the upper lip and of the angle of the mouth. Tested for sensation it was found that the entire area of the trigeminal distribution to the face was decidedly hypesthetic. This hypesthesia could readily be demonstrated over the left side of the nose, the left brow and forehead and over the left temple and cheek. It was especially pronounced over an oval patch in the infraorbital distribution. This patch, which appeared to have the infraorbital foramen as its center, was about 1½ inches in its vertical diameter and 1 inch in its transverse. (See Fig. 1.) Sensation was everywhere sufficiently preserved for the patient to distinguish between a pin point and the head of a pin. Pressure sensation appeared to be everywhere well preserved. This was also the case with the temperature sense. The superficial pain sense could not be [illegible]ied accurately as the patient declared all h[illegible] he parts gave him pain. Distinct prickling [illegible], however, gave more decided demonstratio[illegible]

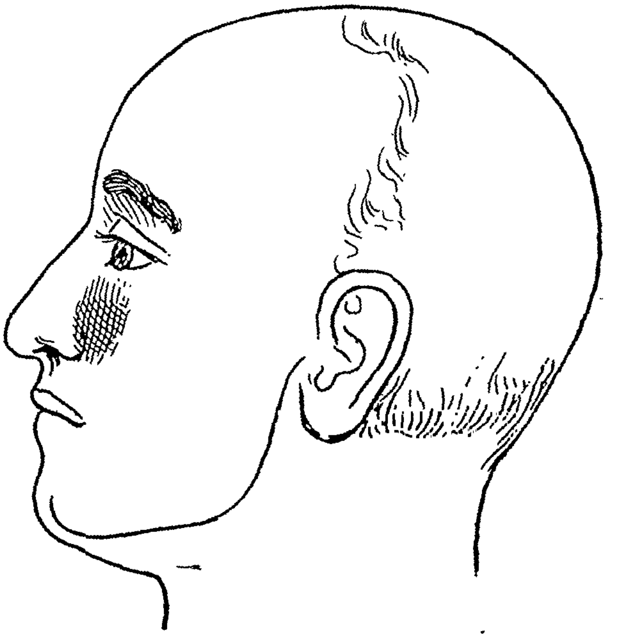


FIG. 1.—Area of hypesthesia previous to first operation by Professor Keen. The dark patch represents the area in which hypesthesia was pronounced.

a mere touch, and there can be no doubt that marked hyperalgesia was present. The conjunctiva was distinctly hypesthetic as compared with the conjunctiva of the opposite eye. The condition of the sense of taste on the left side of the tongue could not be satisfactorily determined. Movements of the tongue and the opening of the mouth so greatly increased the suffering of the patient that no test could be applied with satisfaction. The pain, it should be added, was referred by the patient not only to the surface but also deeply into the tissues.

The patient was excessively weak and, according to his own statements, had lost greatly in weight. He stood with some difficulty and when prevailed on to walk did so with a slightly staggering gait. When tested for station with feet apposed and with his eyes closed, he evinced a tendency to fall backward. These phenomena impressed me at the time as being rather the symptoms of extreme weakness than those of ataxia. When he was seated, the movements of the arms were tested and no ataxia of these members was revealed. The knee-jerks, however, were both absolutely lost. They could neither be elicited by the ordinary methods nor by efforts at reenforcement. The general examination failed to reveal any sensory losses whatever, nor was there any sensory retardation. It should be added that the patient also suffered from an old cystitis which occasionally gave rise to considerable pain.

Prof. G. E. de Schweinitz made an examination of both eyes, with the patient in bed, his head and shoulders raised on pillows. The pupilary reflexes were normal. There was no failure in rotation of the eyes and no nystagmus. Each disc was somewhat anemic. There was neither congestion, neuritis nor atrophy. Both retinæ were normal, the retinal circulation also, and fields for white and red. In addition there was present chronic otitis media of the right ear. This was later confirmed by a detailed examination of the ears, made by Dr. Walter J. Freeman, who reported in addition that the membrane of the left ear was decidedly depressed and scarred but could readily be inflated.

The non-paroxysmal character of the neuralgia, its frightful severity and unvarying intensity, the deep-seated temporal pain, the nearly simultaneous involvement of all branches of the trifacial, the hypesthesia in the distribution of the fifth nerve, and the somnolency suggested to me both an organic cause and the Gasserian ganglion as the seat of the disease. Further, the remarkable result of the microscopic examination of the glandular masses, removed from the neck by Dr. Abbe, suggested the existence of a neoplasm within the cranial cavity. It would be extremely difficult to explain the presence of an endothelioma in the lymphatic glands of the neck on other grounds; and it therefore seemed to me a most important point to confirm the diagnosis as to the nature of the tumors removed by Dr. Abbe by a personal examination, and this, thanks to the kindness of the Doctor, I was able to do. On November 23, I called in Prof. W. W. Keen, with a view to a possible surgical operation directed to the Gasserian ganglion. Dr. Keen carefully examined the patient and was greatly impressed by the character of the pain, which differed, as he expressed it, from that in any case of trigeminal neuralgia he had before seen. On November 25, he was removed to Dr. Keen's private hospital, and on November 27 an operation was performed in which, as the Doctor details, he discovered and removed in large part a tumor occupying the position of the Gasserian ganglion. As far as could be determined, at the time, the foramen rotundum had become both divided and obliterated. Much of the mass back of this and also over the foramen ovale and to some extent posterior to the latter was removed. The fragments of the tumor resembled fibrosarcoma in their microscopic appearance. They were handed to Prof. W. G. Spiller for microscopic examination. It was thought wise to discontinue the operation at this point. The patient promptly rallied, but on resuming consciousness at once complained as bitterly as before of pain. It was also evident that he was delirious, and delirium accompanied by great excitement continued for about ten days, during which it was impossible to make an accurate examination as to the sensory phenomena. He was excessively noisy and loud and almost incessant in his lamentations. Some quiet followed hypodermic injections of morphia, but the periods of relief thus secured were generally short and imperfect.

He made a good surgical recovery from the operation, and the delirium somewhat abated, but the pain continued with undiminished severity. He was examined on December 13 with the very surprising result that no change whatever in the sensory phenomena was observed, except some increase in the hypesthesia. The temple and the cheek were now decidedly more hypesthetic than before. (See Fig. 2.) This increased diminution in sensation could not, however, be claimed for the conjunctiva or for the brow. The patient was still everywhere able to appreciate touch, and he could for the most part distinguish a pin point from a pin head, though occasionally he failed to make this distinction—especially was this true over the oval patch of pronounced hypesthesia in the infraorbital distribution discovered at the first examination. He could still everywhere readily distinguish between a hot and a cold spoon, and also between light and deep pressure. An examination of the sense of taste was again without definite result; the patient still complaining bitterly of the pain in his upper teeth and of great distress when any manipulation involving the mouth was attempted. He did say, however, that his food did not taste properly and that the left side of his throat was sore. The left masseter and temporal muscles were completely paralyzed. Some time after the operation a paresis of the left rectus externus was also observed. Prof. G. E. de Schweinitz again examined the eyes and

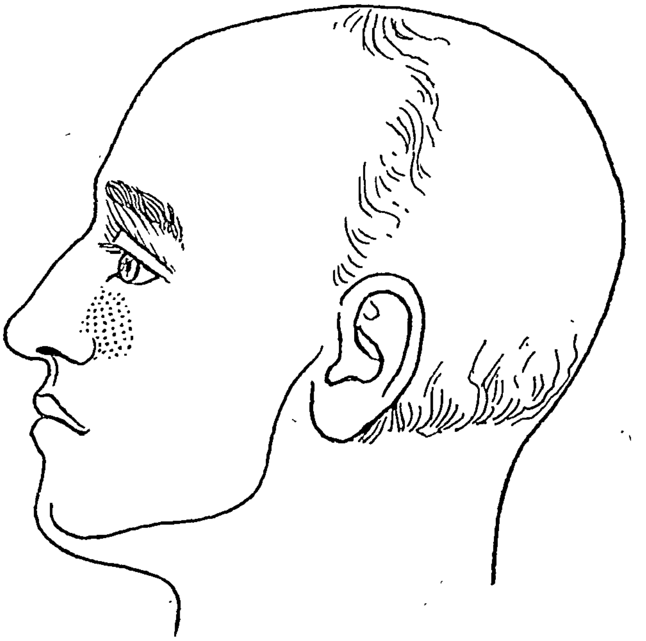


Fig. 2.—Area of hypesthesia after first operation by Professor Keen.

reported a complete paralysis of the left external rectus muscle, but no other changes.

The pain had evidently not been appreciably influenced by the operation. Professor Spiller further reported that he had found only a few ganglion cells in the fragments of the tumor which had been handed him, and after repeated consultations with Dr. Keen and also with Dr. Charles K. Mills, it was decided to again submit the patient to operation. The second operation was performed by Dr. Keen on December 26. The details and extent of this are described by Dr. Keen. Suffice it for me to say that the operation, as far as it was possible to judge, was most thorough and extensive. All accessible portions of the tumor, except that in relation with the cavernous sinus, were removed. In addition part of the inner end of the petrous bone, including the depression normally occupied by the Gasserian ganglion, was chiseled away and the anterior surface of the pons freely exposed.

As before the patient rallied well from the operation, but he again passed into a condition of confusion and delirium. He was as before noisy, and loudly and ceaselessly dwelt on his pain, which seemed to be unabated. As before, it was referred to the orbit and brow and to the upper teeth. It was not until four days elapsed that it was possible to make another sensory examination. It was then found that the increased hypesthesia noted at the first examination now involved the entire trigeminal distribution. It was, however, as before, merely a hypesthesia and not an anesthesia. The patient was still able to appreciate contact, still able to appreciate decided differences in pressure and, what I regarded as extremely remarkable, still able to appreciate differences in temperature. He readily distinguished, and always correctly, between a spoon dipped in hot and another dipped in cold water. The hypesthesia was as before most pronounced in the oval patch in the infraorbital distribution noted at the previous examinations. In this area the patient would at times fail to differentiate between simple contact and pin pricks, but total sensory loss did not exist. The hypesthesia of the left side of the face further was not sharply limited by the middle line, but merely seemed to grow less pronounced as the sound side was approached. For instance, he felt a pin point clearly on the right side of the nose and for some distance after the bridge of the nose had been well crossed over to the left side. This fact was also observed in the lips, the chin and the forehead. At the final examination the conjunctiva appeared to be profoundly hypesthetic but not anesthetic. It was difficult, however, because of the patient's lamentations and excitability, to conduct this portion of the examination satisfactorily. For the same reason and because of the intense pain which the patient was suffering, no attempt was made to study the sense of taste at this time. The above observations, as before, were verified repeatedly.

Subsequently little or no change took place in the patient's condition and his wound having healed by January 9, he left the city for his home, still complaining loudly and constantly of his pain, and still holding his hand over his brow. I have been informed that since his return home the pain has continued, and that he still requires morphia for its relief. The cornea is now absolutely anesthetic. The eye is immovable and blind and there is much difficulty in raising the upper lid. His general health is much improved though he is quite anemic and very thin. Recently another enlarged gland has appeared under the jaw on the left side.

Remarks.—This remarkable case is interesting first because of the persistence of sensation after undoubted extirpation of the Gasserian ganglion, and secondly because of the rarity of tumors involving this structure. The persistence of sensation would perhaps at first sight suggest that the ganglion and its branches had been imperfectly removed, but no one present at the time of the operation could doubt the accuracy of the anatomic verification nor the thoroughness with which the work was done.

Persistence of sensation, however, both after removal of the branches and even after extirpation of the ganglion is not unknown. Dr. John K. Mitchell[1] has reported two most interesting cases, in the first of which portions of the supraorbital and supratrochlear nerves were removed by Dr. Keen. Subsequently some degree of anesthesia was present for touch and pain, but it was noticed that the loss of sensation was less complete than might have been expected and seemed to be absolute only in an oval area at the outer canthus of the eyelids and of the upper lid. In the second patient Dr. Keen resected the supraorbital and the infraorbital nerves. A subsequent examination revealed an even less degree of loss of touch, pain and heat sense than was present in the first case. "Indeed," says Dr. Mitchell, "it could hardly be said that there was more than slight delay or impairment of perception anywhere in the supraorbital, nasal, palpebral or labial branches." When the patient was discharged after the ninth day there was neither slowness nor impairment of sensation for any form of stimulation. "The touch of the finest filament of thread was instantly felt and correctly located everywhere on the cheek, temple, nose, eyelids and upper lip." Dr. Mitchell also reports his findings in a case in which Dr. Keen had removed the Gasserian ganglion: "After the removal of the ganglion the patient's mental condition was such for nine or ten weeks that no study of the sensation could be made but when it became possible there was no absolute anesthesia to be found except between the margins of the wound. The touch sense was everywhere preserved in some degree, the pain sense was but slightly less in degree than before the operation." "The mucous membrane of the lips and cheek of the right side and of the right side of the tongue was also partially anesthetic." On the right side the sense of taste was entirely lost. In explanation of these remarkable findings, Dr. Mitchell suggests the presence of sensory fibers in the facial nerve, and cites the statements of Turner and Ramon y Cajal as to the relations of the facial nucleus to the sensory trigeminal root and to the substantia gelatinosa. He also cites Frankel-Hochwart's results as to the evidence of slight sensory losses present in some cases of paralysis of the facial nerve. The thought also suggests itself to me that in a case like the present, in which the Gasserian ganglion is slowly and gradually involved, that perhaps a *gradual* substitution of function may take place through the facial nerve.

The persistence of the pain subsequent to the operation is perhaps to be referred to degenerative changes in the sensory root of the fifth nerve, and perhaps also to changes in the cerebrum. The projection of the pain to the surface is analogous to the psychic projection of pain and other sensations beyond the stump of an amputated limb.

To my knowledge but 2 tumors involving the Gasserian ganglion have thus far been reported; 1 by Hagelstam[2] and one by Trénel.[3] In Hagelstam's case, which came to autopsy, there was present a tumor, an endothelioma, of about the size of a walnut, situated in the left, middle cerebral fossa. The dura mater and Gasserian ganglion were completely involved in the g [illegible] ich in part perforated the underlying bone and penetrated into the posterior portion of the nasopharyngeal cavity. During life the patient had complained of constant pain over the entire left half of the face and over this area and for some centimeters upward on the hairy scalp, sensibility both for pain and touch was lost except in the area of distribution of the great auricular nerve. Over the cornea and the conjunctiva the sensibility was diminished. The sense of taste on the anterior third of the tongue to the left of the median line was lost for bitter and acid substances and for salt and sugar. The temporal muscle appears to have been atrophied. No muscular contractions could be elicited by the strongest currents. The masseter muscle felt firm and hard, but could not be made to contract to the faradic current and the jaw could only be separated for one centimeter.

In Trénel's case there was present an angiolithic sarcoma. It had involved and penetrated the peripheral portions of the right Gasserian ganglion. On microscopic examination, the latter, however, still presented nerve-cells of normal aspect. During life there had been present profound hypesthesia if not complete anesthesia of the right side of the face. The patient also presented marked mental depression, was difficult to examine and the limits of the sensory loss could not be accurately determined. No atrophic nor circulatory disturbances were noted in the eye.

Two other cases have been reported in which the Gasserian ganglion, though not directly involved, suffered from the pressure of a tumor. In one of these, reported by Krause,[4] there was a large cholesteatoma which filled the third ventricle and also involved the adjacent parts, such as the chiasm and sella turcica. The tumor was found to be entirely within the dural sac and there was no involvement of the Gasserian ganglion whatever. The patient had suffered for sixteen years from a persistent and most terrible trigeminal neuralgia. There had never been present headache, giddiness, vomiting, irregularity of the pulse nor any other cerebral symptoms. An examination of the eyes by one of the most distinguished ophthalmologists had also failed to reveal any abnormalities. As he regarded the symptoms sufficient to establish the intracranial seat of the affection, Krause decided to remove the Gasserian ganglion, although peripheral nerve operations had not yet been attempted. The removal was followed by complete relief of pain. However, about two weeks after the operation, headache made its appearance and cerebrospinal fluid began to trickle from the point of drainage. Notwithstanding the insertion of a drainage-tube and other surgical measures, fever set in and the patient died about four weeks after the operation. It is remarkable that in Krause's case nothing could be discovered of the tumor at the time of the operation, but this is no doubt to be explained by the fact of the complete intradural situation of the growth. Krause explains the neuralgia from which the patient suffered by compression of the Gasserian ganglion and its roots. He also considered it probable that the tumor began at the upper edge of the petrous bone: this bone itself was entirely normal.

Another case was reported by Homen,[5] in which a tumor, an endothelioma of the dura mater, had pressed upon and flattened the Gasserian ganglion and its branches. In this case there had been present toothache in the left upper jaw, intense pain and sensations of cold in the entire left half of the face and complete anesthesia, the latter also involving the forehead, the anterior part of the parietal and the temporal regions. The conjunctiva was entirely without sensation, much injection, somewhat swollen and the reflexes were absent. The cornea was cloudy, with ulceration on its inner edge. The mucous membrane of the nose and of the left half of the tongue was anesthetic. The patient appeared to be deaf in the left ear. In addition the entire left half of the face was sunken and atrophic and the left angle of the mouth somewhat depressed. In other words, there was in Homen's case, in addition to the neuralgia and anesthesia, a hemifacial atrophy. Although the ganglion itself was not involved in the growth, a microscopic examination of the peripheral portions of the trigeminal nerve revealed a far-advanced degenerative atrophy of all its branches. This was also the case with the roots of the trigeminal nerve.

DR. KEEN'S SURGICAL REPORT.

I first saw Mr. X. with Dr. Dercum on Nov. 23, 1899, and learned his earlier history. The case at once impressed me as different from an ordinary tic douloureux. As my notes taken at the time state, the pain was not that paroxysmal darting one we see in tic, but a severe and constant aching pain. In view of the removal of the submaxillary endothelioma by Dr. Abbe, and of a later resection of the infraorbital nerve, without any relief, I suspected that there was probably an endothelioma within the skull, involving the ganglion, and that any extracranial operation would be useless. After talking the matter over with Dr. Dercum, we decided on operation on the ganglion.

First Operation.—Nov. 27, 1899, the usual Hartley-Krause operation was done. As soon as the dura was exposed it seemed to be more tense than usual. When I separated it from the middle fossa of the skull, as I approached the median line, I found that it became extremely adherent, much more so than I had ever before observed. As a result of this it was extremely difficult to find the foramina rotundum et ovale. As soon as I reached the vicinity of the ganglion I appreciated that there was a hard, not very irregular, mass of considerable size occupying approximately the site of the ganglion. The dura, when lifted from the base of the skull, could be rolled over a mass about as thick as the forefinger, and I was now thoroughly convinced that we had to deal with a new growth. After much trouble I finally found the seat of the foramen rotundum, but instead of the usually large opening, there were two small depressions in the bone, separated by a bony bridge. Whether they were complete foramina could not be determined, as no probe would pass through these small openings. No trace of the second division passing through these minute foramina could be found. The foramen ovale, however, was found and the third division passing through it, though both the foramen and the nerve were smaller than usual. Partly with the scissors, partly with the gouge, and partly with the Allis dissector, I was able to remove a mass estimated to measure 3.5 by 1.5 cm. I was not able to remove it as an entire mass but piecemeal. It extended from the cavernous sinus, which as far I could judge, formed its inner extremity, to the outer extremity of the foramen ovale. It stopped short of the foramen spinosum, for the middle meningeal was found pulsating and was tied, lest in the removal of the growth I might possibly divide it and be embarrassed by serious hemorrhage. The removal of the mass involved a large opening in the dura, through which a considerable amount of cerebrospinal fluid escaped. I was then confronted with this problem:—in order to remove the inner portion of the tumor, it would be necessary deliberately to open the cavernous sinus. After consultation with Drs. Taylor, Dercum and Spiller, I decided not to do so, on these grounds: If the tumor were malignant, there were unquestionably other remnants left elsewhere by which it would be reproduced and the removal of the wall of the sinus would be useless, and if it were not malignant, the removal of the major portion of the tumor would probably be followed by the disappearance of the remainder. Moreover, the removal of the outer wall of the sinus would have involved, in all probability, destruction of the third and fourth nerves themselves, thus producing an extensive ophthalmoplegia and in addition to this there would have been also a possibility of injury of the sixth nerve and of the carotid artery. The fragments removed were handed to Dr. Spiller. The osteoplastic flap was replaced and the wound closed, a small gauze wick being passed under the posterior superior angle between the bone and the dura, as a drain. The operation lasted nearly 2½ hours. He was placed in bed in a very satisfactory condition.

From the surgical point of view, his physical recovery was all that could be desired. The day following the operation, his temperature rose to 100 F. With that exception it was never above 99.4 F. The stitches were all removed on the sixth day, the wound being entirely healed. On the third day I removed the stitches by which the eyelids had been closed at the time of operation, and after careful disinfection I placed a Buller shield over the eye. This was removed night and morning and the eye washed with warm boric acid solution. No ocular disturbances followed the operation. The Buller shield was removed after twelve days. The patient left the hospital on the ninth day after operation.

From the mental standpoint, however, things were quite different. The operation was followed by a traumatic insanity, amounting almost to acute delirium, so that the patient had to be watched very carefully lest he do himself or others harm. A part of this I attributed to the withdrawal of his morphin, which was rapidly reduced and by the sixth day was cut off entirely. Various hypnotics were tried and did some good. No reliable examination to determine the sensibility of his face could be made at this time. He, however, complained constantly and bitterly of pain in the head and the left side of his face, especially in the upper teeth. His mental condition, however, gradually improved and by about December 12, the fifteenth day, he was fairly clear. Another complication also was a great deal of vesical pain, the result of stricture, which I dilated with great benefit. As the pain steadily continued and, according to his assertion, was even worse than before, after consultation with Dr. Abbe, it was determined to operate again.

Second Operation.—Dec. 26, 1899, Dr. Abbe was kindly present and, with Dr. Taylor, assisted me in the operation. The former osteoplastic flap was turned down. The bony portion of the flap was in a few minutes caught by a gauze sponge and with but little force was torn loose from the flap. I did not replace it. The dura was then lifted up as at the first operation, and without serious hemorrhage. Dr. Abbe confirmed my observations as to the existence of the foramen ovale and the blocking up of the foramen rotundum. Between the two we found a third opening in the base of the skull, which we judged to be the result of the gouging of the first operation. A moderate blood clot occupied the site of the former operation and a considerably thickened mass of tissue corresponding to the old tumor could be felt. We then decided to open the dura and attack the tumor from within. This was opened by an incision a little smaller than that in the bone. As soon as the flap of dura was turned down, I noticed on the inner surface of the dura quite a number of small granulations like miliary tubercles. They were about 1 to 2 mm. in diameter, and were apparently clear and translucent. There were one or two doubtful little granulations on the pia, but on the flap of dura turned down, there were, I judge, forty or fifty sprinkled over it. Later some others were seen on the dura lining the base of the skull, but much less numerous than those on the flap. Three of these little granulations were excised and given to Dr. Spiller. The pia was a little clouded along the vessels, but elsewhere was perfectly clear. The brain was now lifted up by a broad brain retractor and a very satisfactory view of the base of the skull obtained. As soon as the site of the Gasserian ganglion was disclosed, I at once saw the opening in the dura, as large as the end of the thumb, caused by the first operation. It was partly filled up by a translucent gelatinous mass which resembled, to the eye, a sarcoma having considerable consistency. Along side of it was a considerable mass of blood clot and débris. All of this was finally gouged out and there was left a cavity so large that an ordinary, round, gauze sponge was easily packed into it. The site of this cavity was the inner end of the petrous bone. The carotid was not seen. The ridge along which runs the superior petrosal sinus had been destroyed by the tumor. I then sought for the pons and, on lifting the brain a little further, there came very readily into view the opening of the tentorium and the pons at a lower level. A considerable amount of cerebrospinal fluid welled up from the spinal canal and mingled with the small amount of blood which escaped. This required constant sponging to keep the operation field clear, but there was no difficulty in determining the facts. The temporosphenoidal lobe was slightly lacerated by my retractor, but not to any notable extent. Having apparently done all that was possible, the dura was closed with continuous catgut suture and the external wound with interrupted silkworm gut suture. A small extradural gauze wick was introduced as a drain and to arrest the hemorrhage from a small blood-vessel on the surface of the dura. The operation lasted an hour and a quarter, and he suffered very little from the shock. The temperature after the second operation fluctuated a little above and a little below 100 F. The wound healed by first intention, except at the point of drainage, where a little blood and then bloody serum escaped for about ten days. The patient went to his home in Louisville on January 9, the wound being entirely healed.

Following this operation, after two or three days, during which he was rather dull and stupid, there was also very considerable traumatic insanity. This delirium, however, was not as prolonged nor as severe as that which followed the first operation. He had recovered almost entirely from it within a week.

Dr. Walter J. Freeman examined his ears, as he had suffered from aural discharge for a long time, and reported that the left membrane was retracted and scarred, the diminution in the degree of hearing being exaggerated by the collapsed membrane. On the right the membrane was absent and there was free discharge. He has been treated for the discharge from his ears on and off since he was a child. The Doctor reported as follows: "I do not know what efforts have been made to stop the discharge, but where it is long continued I would rather suspect involvement of the bone. The only thing which promises relief is to open the mastoid freely down to the middle ear and remove the diseased bone. I do not however, think there is any need for operation in his case at present. His hearing was benefited by inflation, but there was no marked increase. Indeed, the condition of his ears is too bad for us to look for any great benefit in this direction."

Remarks.—The present case is the first case of tumor of the Gasserian ganglion reported in the United States, and is, so far as I can learn, the third tumor ever reported. It is the first case that has ever been operated on. The operative technique was very satisfactory and his recovery from both operations of so serious a character most gratifying. The view of the base of the brain at the second operation was the most extensive I have ever seen.

DR. SPILLER'S PATHOLOGIC REPORT.

From the William Pepper Laboratory of Clinical Medicine (Phoebe A. Hearst Foundation).

The tumor consists of cells forming long columns, or more irregularly-shaped masses, and at some parts a plexiform arrangement of these cells is seen. In some places the tumor cells are very numerous and the nuclei are small and round, so that the growth resembles a round-cell sarcoma in these portions. The cells which form the long columns have chiefly elongated or oval nuclei, and these stain deeply, but at some parts of the tumor the columns are formed of cells with large oval nuclei which take the stain less intensely. The tumor is, in places, rich in fibrous tissue, and this latter appears to consist in part of empty nerve sheaths, the nuclei of which have undergone great proliferation. Many of these nuclei are long and narrow, although some are oval. The tumor is not very vascular.

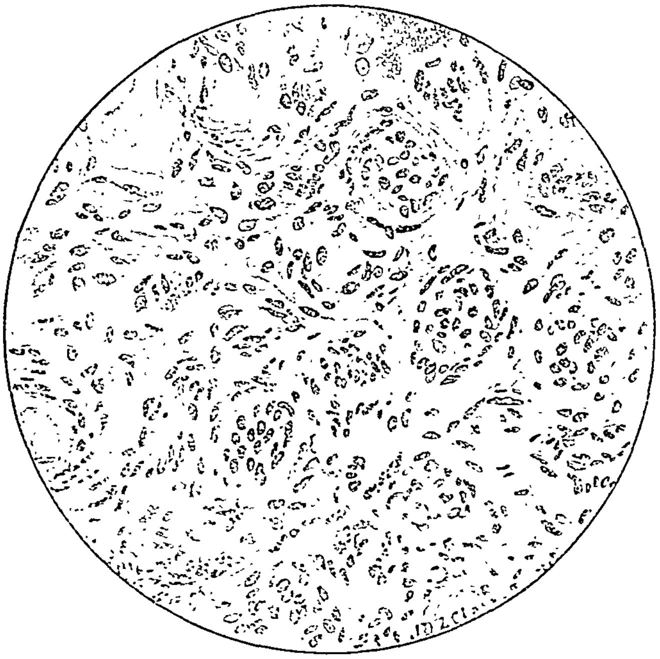


FIG. 3.—Oc. 3. Ob. 7. A portion of the Gasserian ganglion in which the nerve-cells have almost entirely disappeared. A concentric arrangement of the nuclei may be seen in different parts of the field, seeming to indicate that the cells of the capsules have proliferated and filled the spaces left by the destruction of the nerve-cells.

The Gasserian ganglion is invaded by the new growth, although some parts of the ganglion are relatively free from tumor cells. The nerve-cells within the ganglion are not so numerous as in normal ganglia, and this decrease in number is more noticeable at some parts than at others. Some of the nerve-cells are more shriveled than can be explained by the method of hardening (Müller's fluid), and the nuclei of the capsules about some of the nerve-cells are unusually numerous, indeed in some parts the nerve-cells seem to have disappeared while the cells of the capsules have proliferated and filled the spaces left by the destruction of the nerve-cells. (See Fig. 3.) This explanation is suggested by the concentric arrangement of nuclei seen in certain parts of the ganglion.

In certain parts of the tumor a few medullated nerve-fibers are found, but these are greatly degenerated and empty nerve sheaths are more numerous than medullated nerve-fibers. When these apparently medullated nerve-fibers are examined more carefully they are seen to consist of separate blocks of myelin and are therefore greatly degenerated. Professor Keen was able to positively determine the third division of the ganglion, and this division was kept separate from the pieces of tumor removed. Most of the nerve-fibers in this division are destroyed. (See Fig. 4.) Within the tissue known by the presence of nerve-cells to be a part of the ganglion a medullated nerve-fiber can only occasionally be found, and even these are much degenerated. As this portion of the tissue was hardened in Müller's fluid alone, without the addition of formalin, the failure to detect numerous medullated fibers can not be explained by the technique employed.

At the time of the second operation small nodules a little larger than the head of a small pin were found on the inner side of the dura, somewhat resembling miliary tuberculous growths. They were slightly larger than the tubercles usually seen in cases of miliary tuberculosis of the brain, and they grew from the inner surface of the dura and were not in the cerebral pia along the blood-vesses, where miliary tuberculous growths are more commonly found. These minute nodules of the dura seemed to me to be related to the tumor of the Gasserian ganglion, although they were *on the inner side of the dura* and in no direct connection with the large tumor mass. I expected to find that under the microscope they would have the same structure as the large tumor of the ganglion. This proved to be the case, as one of these minute nodules examined is unquestionably an endothelioma well defined from the surrounding tissue of the dura. (See Fig. 5.) A small piece of dura removed with this nodule was also studied. Its inner surface showed accumulations of cells, some with round and some with oval nuclei, and two of these accumulations examined were separated from one another by nearly normal dural tissue.

The microscopic study of the tissue removed by Professor Keen shows that the growth is an endothelioma invading the Gasserian ganglion, destroying many of its nerve-cells and causing almost complete degeneration of the medullary sheaths of the nerve-fibers.

The tumor is unquestionably an endothelioma, although in some parts the structure is not entirely typical of this form of growth. Endothelioma, according to Birch-Hirschfield,[6] belongs undoubtedly to the connective-tissue tumors, and in some cases a sharp distinction can not be made between it and sarcoma. When the formation of endothelial cells occurs with proliferation of the stroma, it is doubtful, he thinks, whether such a tumor can be classed with the endotheliomas, and it should more properly be called an endothelsarcoma; when the fibrous tissue is excessive it may be called endothelioma fibrosum.

Ziegler[7] says that the alveolar, tubular or plexiform arrangement of the endothelioma is very distinct only in the early stage of tumor formation, and that in later stages the proliferation of connective-tissue cells makes the tumor resemble a sarcoma. Endothelioma can not therefore be sharply separated from sarcoma.

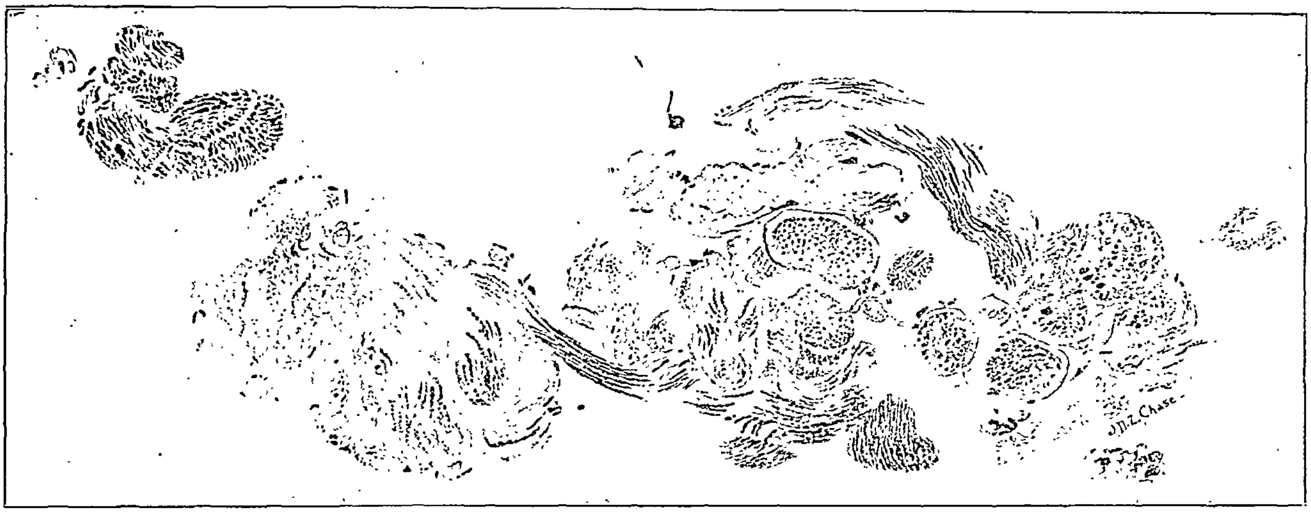


Fig. 4.—The third division of the Gasserian ganglion almost completely degenerated. The black dots and lines indicate the few normal nerve-fibers remaining.

The tissue removed from the patient is so typical in many places of endothelioma that the growth may be called an endothelioma, although at parts considerable accumulations of round nuclei are found, and at other parts much fibrous tissue consisting partly of empty nerve sheaths. In the small nodule removed from the dura the typical structure of endothelioma is seen.

The proliferation in some parts of the ganglion of the nuclei of the cells in the capsules about the nerve-cells is an interesting observation. We might expect these cells to proliferate in an endothelioma of the ganglion. The capsules of the nerve-cells of the spinal ganglion, according to v. Lenhossék[8]—and the same is true of the cells of the Gasserian ganglion—consists of connective tissue which passes into the sheath of Henle of the axis-cylinder process. This capsule, especially about the larger cells, presents a laminated structure consisting of two or three layers and containing small flat or elongated nuclei. The inner surface of the capsule is lined with one layer of epithelium. In many animals the cells are flattened like endothelial cells, but in man they are quite large and rich in protoplasm and the nuclei are large and round or elliptical. Von Lenhossék at one time believed that a lymph space existed about the cells of the spinal ganglion, but in his study of ganglia removed from an executed man soon after death and hardened rapidly, he found that a pericellular space does not exist. Whether the cells lining the cell capsule are to be regarded as endothelial or not seems undetermined. Their proliferation in an endothelioma might occur whether the cells resemble endothelium or epithelium.

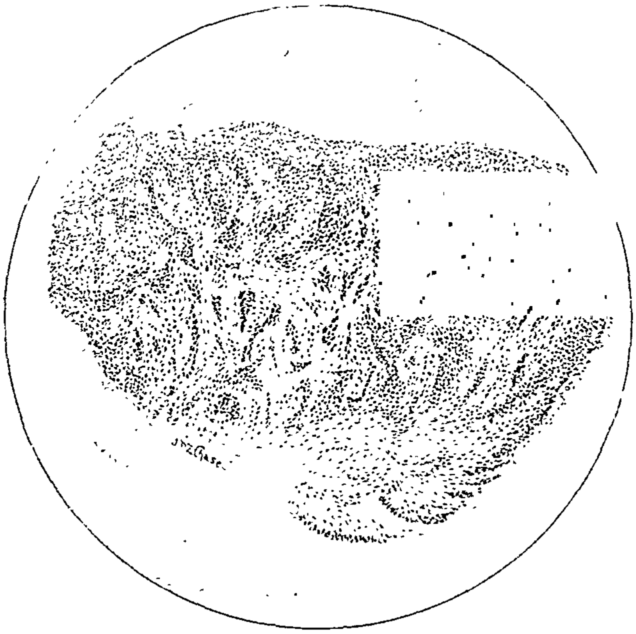


Fig. 5.—One of the miliary endotheliomas on the inner surface of the cerebral dura.

The great degeneration of nerve-fibers of the fifth nerve and the pressure caused by the tumor explain the intense pain felt by the patient, but it seems surprising that objective sensation in the face could have been so well preserved when the medullated fibers were so greatly degenerated. Axis-cylinders deprived of medullary sheaths may have existed, although such naked axis-cylinders are always difficult to detect.

In two excellent papers on endothelioma that have recently appeared (Kelly,[9] Sailer[10]), in which the literature is carefully considered, no mention is made of miliary endothelioma, and Sailer says that endothelioma of the dura is almost invariably benign and rarely gives rise even to pressure symptoms. Dr. Kelly and Dr. Sailer inform me that in their study of the literature on endothelioma they have found no mention of the occurrence of numerous small endotheliomas. Our case of tumor of the Gasserian ganglion caused what may be regarded as numerous metastatic growths and—even more uncommon—miliary endotheliomas. I have also had a case of endothelioma of the cerebral dura in which pressure symptoms were very marked.

BIBLIOGRAPHY.

1. Mitchell, John K.: Jour. of Nervous and Mental Dis., June, 1898.
2. Hagelstem: Deutsche Zeitsch. f. Nervenheilkunde, vol. xiii, Nos. 3 and 4, p. 205.
3. Trénel: Bulletins et Mém. de la Soc. Anatomique de Paris, March, 1899, p. 326.
4. Krause: Die Neuralgie des Trigeminus, p. 101.
5. Homen; Neurologisches Centralbl., 1890, p. 385.
6. Birch-Hirschfeld: Lehrbuch der Path. Anatomie.
7. Ziegler: Lehrbuch der Allgemeinen Pathologie. Ninth Edition. Vol. i, p. 431.
8. v. Lenhossék. Arch. f. Psychiatrie, vol. xxix, No. 2, p. 345.
9. Kelly: The Philadelphia Monthly Medical Journal, February, 1899.
10. Sailer: Contributions from the William Pepper Laboratory of Clinical Medicine.

According to the sanitary corps of the War Department the population of the city of Manila is 150,000.

METHOD OF EXPOSING THE GASSERIAN GANGLION: REMOVAL OF THE SUPERIOR MAXILLARY NERVE.*

BY GWILYM G. DAVIS, M.D., M.R.C.S., Eng.
SURGEON TO THE EPISCOPAL, ST. JOSEPH, AND ORTHOPEDIC HOSPITALS.
PHILADELPHIA.

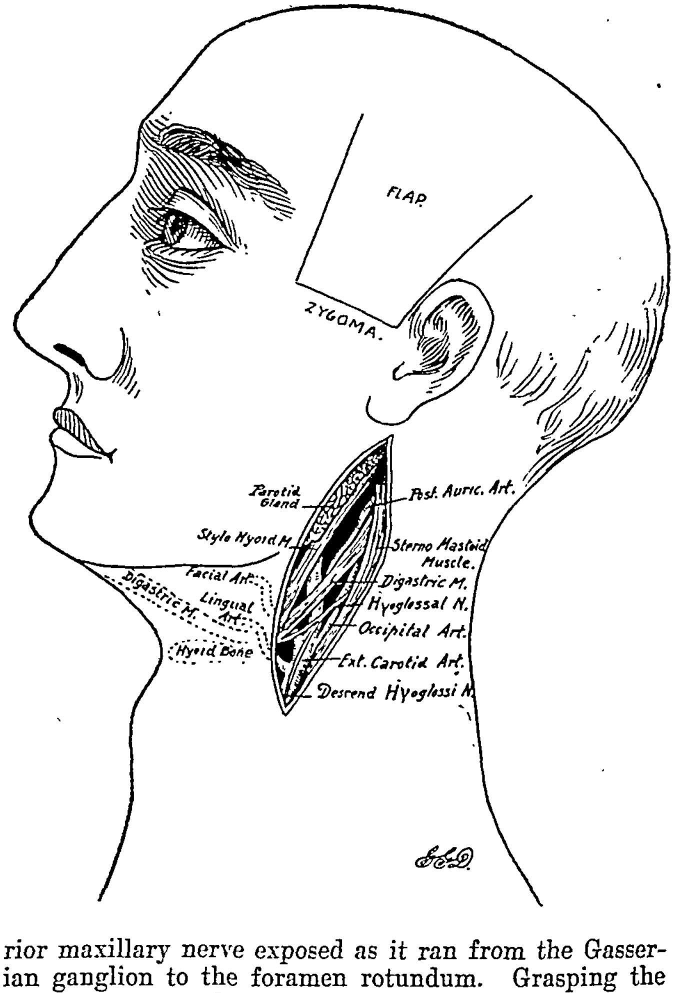
This patient, about 60 years of age, is brought before you to illustrate certain methods of procedure in operating on the Gasserian ganglion. He was affected with neuralgia confined almost entirely to the superior maxillary nerve. For this condition several operations had been done on the face, but the pain having returned I performed Carnochan's operation on Meckel's ganglion. An opening was made in the anterior wall of the maxillary sinus, the posterior wall was chiseled through and by means of hooks and curettes the ganglion was broken up and removed as much as possible. He remained free from pain for three or four months and then had a return. The question arose as to whether an attack should be made on the Gasserian ganglion itself or on the superior maxillary nerve within the skull. The removal of the ophthalmic branch with the ganglion is now, I believe, avoided when possible, and as both it and the inferior maxillary divisions were free from pain I decided to limit my interference to the superior maxillary nerve.

The main difficulties experienced in the operation have arisen from the hemorrhage encountered, and it was to this question that my attention was mainly directed. The bleeding in cutting the flap is considerable, as is also that from the middle and small meningeal arteries and the veins, including the cavernous sinus, in the region of the ganglion. Any bleeding from the sinus was obviated by not interfering with the ophthalmic nerve. To control the arterial bleeding it was decided to ligate the external carotid artery. This procedure was, I believe, suggested by Dr. Fowler.

In ligating the external carotid artery the ligature was placed around it just above the digastric muscle. (See illustration.) The incision was placed behind the angle of the jaw along the anterior edge of the sternomastoid muscle. This was pulled backward and the parotid gland pushed forward. The veins contributing to form the external jugular were pulled forward and the oblique fibers of the digastric muscle came into view: a little parting of the tissues then enabled one to see the hypoglossal nerve below the muscle and winding around the occipital artery to its outer side; to the inner side, coming from the trunk of the external carotid, were the commencement of the facial and lingual arteries. The ascending pharyngeal artery is posterior and may not be seen. Just above the digastric muscle is seen the stylohyoid muscle, and the posterior auricular artery, comparatively small, may be seen winding along the upper edge of the digastric muscle. The stylohyoid muscle was pulled upward, the digastric downward, and the ligature of catgut placed between them on the external carotid artery. This allowed the blood still to ascend to the scalp through the occipital and posterior auricular arteries.

To cut the usual Hartley-Krause horseshoe-shaped flap with its base on the zygoma would be to court sloughing of the flap if the main blood-supply, through the temporal artery, was cut off by ligation of the external carotid artery. Necrosis of the bone and even sloughing of the flap itself have been known to occur. To avoid this a flap of the shape of a truncated cone was cut with its base upward and small end downward. Two longitudinal cuts were made upward, one from the junction of the anterior edge of the ear and the zygoma and the other from the junction of the anterior and middle thirds of the zygoma; these were joined by a transverse cut along the zygoma. This flap embraced the skin and superficial fascia down to the temporal aponeurosis.

The temporal muscle and aponeurosis was then cut in the lines of the two lateral incisions, but the transverse cut was made high up near the temporal ridge. This muscle, having been thus loosened above, was pushed down beneath the zygoma. The skull was opened by a trephine and the opening enlarged by the rongeur forceps. In biting away the bone the middle meningeal artery was torn but gave rise to no troublesome bleeding. The dura mater and brain were then lifted and the superior maxillary nerve exposed as it ran from the Gasserian ganglion to the foramen rotundum. Grasping the nerve as it entered the bone, with a hæmostatic forceps, it was pulled upward. With another forceps it was grasped closer to the ganglion and twisted loose from it. The bone was not replaced, but the temporal fascia and muscle were drawn upward and sutured in place by catgut. The flap was then brought down and sewed in position.



The bleeding during the operation was at no time troublesome. As to the subsequent course, the wounds healed by primary union; there were no circulatory disturbances. The opening in the skull is closed by firm fibrous tissue and the pain has disappeared. The nonreplacement of the bone was suggested by Professor Tiffany, and this case demonstrates that the brain is sufficiently protected without it.

---

*Read in a Symposium on the "Fifth Nerve in Its Neurological and Surgical Relations," before the College of Physicians of Philadelphia, April 20, 1900.

A METHOD OF TOTAL EXTIRPATION OF THE GASSERIAN GANGLION FOR TRIGEMINAL NEURALGIA.*

BY A ROUTE THROUGH THE TEMPORAL FOSSA AND BENEATH THE MIDDLE MENINGEAL ARTERY.

BY HARVEY CUSHING, M.D.
ASSOCIATE IN SURGERY, THE JOHNS HOPKINS UNIVERSITY.
BALTIMORE.

Of the many diseases which, on therapeutic grounds, are supposed to occupy a border-line position between the provinces of the physician and surgeon, perhaps no one more than intractable epileptiform neuralgia illustrates so well the dictum of that renowned Philadelphian and friend of many doctors, Benjamin Franklin, to the effect that "he is the best physician who knows the worthlessness of the most medicines."

Granting the premise in all cases of true tic douloureux, the neuralgia quinti major of Henry Head, in which all three divisions of the trigeminal nerve are affected, that surgical measures alone can with any degree of certainty be depended on to afford relief from this horrible affliction and that the removal of the Gasserian ganglion must ultimately be contemplated, it is to be regretted that this final procedure should generally be regarded as one hazardous in its performance and uncertain in its permanent effects. Two factors may be held responsible for the ill repute in which the ganglion operation at present stands; in the first place the considerable attendant mortality, ordinarily placed at 20 per cent., and secondly the impression which is prevalent regarding the possibility of recurrence of the neuralgia, an impression which has been occasioned by the reports of cases in which incomplete operations have been performed with a subsequent return of pain.

Almost without exception descriptions of the operation relate in apalling fashion the severity of the hemorrhage which has ensued during one step or another of the procedure, and which has in most instances precluded the possibility of a total extirpation. Granting an equal familiarity with the surgico-anatomic relations of the ganglion semilunare, especially those referable to its dural envelope, the successful accomplishment of its removal, whatever the method employed, will depend entirely on the degree with which an operator may avoid a bloody wound, since a clean dry field is almost a *sine qua non* for the manipulations, which even on the cadaver offer considerable difficulty. The objective point of the operation is necessarily located at the bottom of a close-walled operative well whose depth varies from 5 to 8 cm., and blood-staining even in comparatively slight amount will obscure the ganglion and be incompatible with its complete removal. Consequently, under circumstances which have demanded that the operation be conducted in two or three sittings with periods of tamponade of from two to five days, with possible preliminary ligation of the carotid and almost without exception leaving wounds which have required drainage, there is little occasion for surprise that many operators have contented themselves with division of the second and third branches—N. maxillaris and N. mandibularis—and random removal of the adjoining portion of the ganglion with the aid of blunt hooks or the curette. It has been a not infrequent experience at the hands of those who have been careful enough to submit to histologic examination the tissues removed, under such circumstances, from the supposed site of the ganglion, to find that no ganglionic structure whatever was demonstrable, and that recurrences should be recorded in such instances is no occasion for disparagement of the operation.

Apparently, heretofore in but few cases, notably by Keen[1] and Krause,[2] in Coelho's[3] case and in a few others, has the ganglion been removed *in toto* and as a recognizable entity worthy of histologic study. Relative to photographs of the ganglia removed by Krause and Doyen,[4] Marchant[5] has commented on the necessity of microscopic examination of the tissues removed in confirmation of their presumed ganglionic character. The experience of finding no ganglionic elements in such material has occurred even to operators as skillful as Dr. Keen.[6]

Whether after complete extirpation of the ganglion a continuance or recurrence of painful stimuli of the central system of neurons may follow, must remain a matter of temporary uncertainty, since observations on such conditions have only held over a period of very few years. It is certain, however, from physiologic knowledge of the process of nerve repair, that there can be no peripheral regeneration of the lower system of sensory neurons after the ganglion has been removed, such regeneration as always occurs after division or evulsion of the individual roots and possibly after incomplete removal of the ganglion itself. Experimental evidence,[7] in the case of the spinal cord, goes to show that division of the central axons of peripheral sensory neurons does not preclude the possibilty of physiologic regeneration between a spinal ganglion and the cord. This same principle is applicable to the cerebral sensory ganglia, and in consequence by analogy with the spinal cord it is evident that the simple division of the sensory root of the fifth nerve—N. trigeminus—which procedure has been proposed as an alternative for the removal of the ganglion itself, would be inefficient. The degenerative changes found by Dr. Spiller in the sensory root of one of my cases has aroused a suspicion of possible recurrence of the pain; in this case, however, one in which there was a return of neuralgia a few weeks after two earlier peripheral operations, there has been no sensation of pain whatever since the operation nine months ago. (Cf. Case 1.)

In view of the foregoing data, I believe that it may with propriety be stated:

---

*Presented at a meeting of the College of Physicians of Philadelphia, April 20, 1900. The subject was illustrated by dissections and photographs of cases. In the present communication the operative procedure alone is discussed. The description of cases with the anatomic and physiologic questions relative to them will be published subsequently.

[1] Keen, W. W., and W. G. Spiller: Remarks on Resection of the Gasserian Ganglion, with a Pathological Report on Seven Ganglia. Am. Jour. of the Med. Sci., Vol. cxvi (1898), p. 503.

[2] Krause, Fedar: Die Neuralgia des Trigeminus nebst der Anatomie und Physiologie des Nerven. Leipzig, Verlag von F. C. W. Vogel, 1896.

[3] Coelho, Sabino: Ablation du ganglion de Gasser avec arrachement protubérantiel du trijumeau dans un cas de névralgie faciale rebelle. Revue de Chir., T. xix., Mai, 1899, p. 623.

[4] Doyen, E.: L'extirpation du Ganglion de Gasser. Archives provinciales de Chirurgie. T. iv., Juli, 1895, p. 429.

[5] Marchant, Gérard et Henri Herbert: De la résection du ganglion de Gasser dans les névralgies faciales rebelles. Revue de Chirurgie. T. xvii, 1897, p. 287. These writes say in a foot-note, p. 295: "Nous aimerions malgré tout, voir figurer, dans ces observations, a coté de la photographie, le résultat de l'examen histologique. Un ganglion arraché, tordu ou broyé par les mors de la pince est en général assez altéré dans sa forme et peut donner lieu a de certaines illusions. Nous ne pouvons nous empêcher de penser que dans un cas (Dennetiers, *Societe de Chirurgie*, 15 juillet, 1896), ou, d'après son aspect, la partie enlevée ressemblait tant bien que mal a un ganglion, l'examen histologique le plus consciencieux n'a pu déceler la présence d'aucune cellule ganglionnaire. Il en fut de même dans deux cas de Keen.

[6] Keen, W.W.: *Remarks on Operation on the Gasserian Ganglion* with the report of five additional cases. Am. Jour. of the Med. Sci., Jan., 1896, Vol. cxi, p. 59. Case 2.

1. That the probability of non-recurrence bears a direct relation to the degree of entirety with which the ganglion has been removed.
2. That the satisfactoriness of the operation is commensurate with the degree of preservation of the ganglion during its removal and the consequent possibilities of a histologic identification of its elements.
3. That the evolution of the operation must be in the direction of avoidance of hemorrhage which will interfere with the manipulations necessary to successfully liberate the ganglion.

OPERATIVE METHODS IN GENERAL.

A variety of methods more or less familiar have been proposed, by means of which the ganglion may be approached, the two most widely quoted being associated with the names of Hartley and Krause and of William Rose. The fact that Rose, in his original operation,[8] excised the superior maxilla in order to reach the ganglion only emphasizes the terrible nature of the malady which made justifiable such a mutilating procedure undertaken for its relief. In the subsequent development of the operative method by what is known as the *pterygoid route,* which Rose[9] and his followers have adopted, the *ganglion is approached from below* by a trephine opening at the roof of the zygomatic fossa. If for no other reason than that the ganglion can hardly be removed *in toto* from such a situation, this route should be abandoned, and its uncertainties are evidenced by descriptions of methods by which this structure may be broken up with a curette and thus destroyed.

The methods proposed by Doyen,[10] Quénu,[11] Poirier[12] and other French surgeons with an approach by what is known as a combined *temporo-sphenoidal route,* also possess some of the disadvantages of the method of Rose, for though the exposure is better, the ganglion is approached from below through the bloody area of the pterygoid plexus with necessary ligation of the internal maxillary artery, and after location of the inferior maxillary nerve—N. mandibularis—the roof of the zygomatic fossa is rongeured away to the foramen ovale and an attempt made to remove the ganglion by using this nerve as a guide to its position. Personal experience with this operative method, though limited to the cadaver, has demonstrated that it is exceedingly difficult to remove the ganglion from this situation in a satisfactory degree of preservation, and furthermore, as will be seen, the blood-supply to the ganglion is almost entirely from below and is especially abundant in the neighborhood of the foramen ovale, consequently the difficulties of this method during life must be considerable. Jacob[13] has recently described an operation in which the infraorbital branch—N. infraorbitalis—of the superior maxillary nerve is first located at the floor of the orbit, the skull trephined and the ganglion approached and identified by means of this nerve in much the same way that the inferior maxillary nerve is utilized in the last described procedure, but inasmuch as these nerves are accessible and plainly recognizable within the skull, it seems unnecessary to demand any such preliminary extracranial sign-post to the seat of operation.

The fact, however, that French surgeons since Doyen have clung to the temporo-sphenoidal route, gives evidence that its possibilities are deserving of consideration, but inasmuch as the great majority of operators have followed the lead of Hartley[14] and of Krause[15] by way of the temporal fossa to the ganglion, doubtless their method should be considered as fraught with less danger and as offering better chances of a successful outcome than any other heretofore described, and it is noteworthy that practically by this method alone in an occasional instance has it been possible to completely extirpate the ganglion. There are many difficulties arising, chiefly from hemorrhage, which those who have seen or attempted this operation of Hartley and Krause will remember but too vividly. In the first place, the Wagner osteoplastic flap in the temporal region must be so taken that it includes the sulcus arteriosus in the anterior inferior angle—angulus sphenoidalis—of the parietal bone which lodges the middle meningeal artery, and consequently the vessel, owing to the frequent depth of the sulcus, is quite commonly lacerated and is the occasion of delay long before the real operative seat is reached. Again, when the ganglion is approached, the operator is so far—measuring on the curve of the skull—from the cavum Meckelii in which the ganglion lies, that an amount of elevation of the brain and underlying dura is necessary, which is incompatible with the preservation of the artery at its lower fixed point, namely, at the foramen spinosum. Hence Krause finds it essential to attempt a preliminary double ligation of the vessel after its emergence from this foramen. This is a difficult procedure, and is not uncommonly unsuccessful, and hemorrhage from the meningeal under any circumstances is an unpleasant thing with which to deal.

Disadvantages other than the obligation of dealing with this arterial bugbear arise from the necessary degree of retraction which is essential for a satisfactory exposure of the deeper parts of the ganglion when this high temporal method is employed. On one occasion, in a left-sided case, a consequent aphasia was noted and in most of the earlier operations undertaken by this method no attempt was made to remove more than the outer portion of the ganglion. Had it been deemed necessary on all occasions to expose and liberate the sensory root proximal to the ganglion, I am certain that the employment of this high temporal route would have been found frequently impossible and always attended by grave difficulties.

Even by the method which I have used, in which there is required but slight elevation of the brain, there has been invariably an associated retardation of the pulse. This is illustrated by the accompanying ether chart, which presents characteristics almost identical with that seen on all four occasions in which I have operated.

Victor Horsley[16] has proposed and carried out an operation by this route in which the dura is immediately opened and the temporal lobe itself retracted, leaving the dura covering the middle fossa in place against the

---

[7] Baer, Dawson, and Marshall: Regeneration of the Dorsal Root Fibers of the Second Cervical Nerve within the Spinal Cord. Jour. of Exp. Med., Baltimore, Vol. iii, 1899, No. 1.

[8] Rose, Wm.: Removal of the Gasserian Ganglion for Severe Neuralgia. The Lancet, Nov. 1, 1890, Vol. ii, p. 914.

[9] Rose, Wm.: The Lettsonian Lectures on the Surgical Treatment of Trigeminal Neuralgia. Lecture ii. The Lancet, Feb. 6, 1892, Vol. i, p. 295.

[10] On Extirpation of the Gasserian Ganglion. Ref. Annals of Surgery, Vol. xxiii (1896), p. 69.

[11] Quénu et Sibileau: Bull. Ac. Med., 10 Jan., 1894; indorsed by Tichonowitch, Centralblatt für Chir., 24 März, 1900, S. 322.

[12] Poirier, P.: Reséction du Ganglion de Gasser; arrachement protubérantiel du trijumeau. Gaz. d. Hôp., Par., 1896, lxix, 808-810.

[13] Jacob, O.: Un procédé de resection du ganglion de Gasser. Revue de Chir., T. xix, (1899), p. 29.

[14] Hartley, Frank.: New York Med. Jour., March 19, 1892. Subsequently—Intracranial Neurectomy of the Fifth Nerve. Annals of Surg., Vol. xvii, 1893, p. 511.

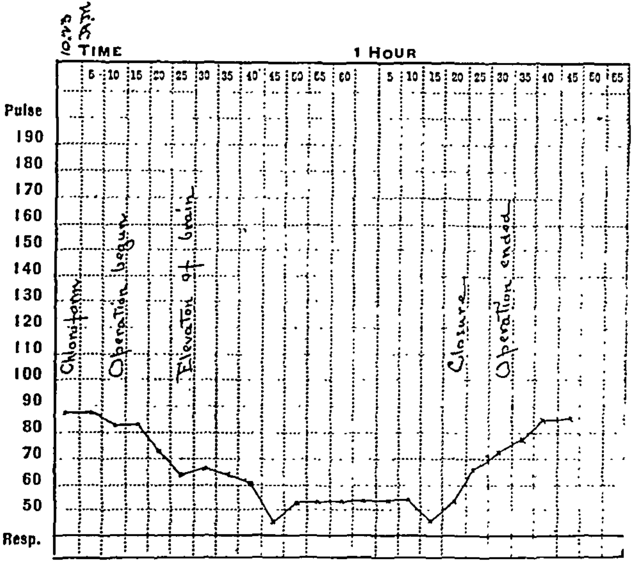
[15] Krause, Fedar: Resection des Trigeminus innerhalb der Schädelhöhle. Verhandlungen der Deutchen Gessellschaft für Chir., Berlin, June, 1892, p. 199.

[16] Horsley, Victor: The Various Surgical Procedures devised for the relief or cure of Trigeminal Neuralgia. British Med. Jour., Vol. ii., 1891, p. 1249.

bone. Few operators could handle the brain thus freed of its support without injury, and after considerable experience with the removal of the ganglion from above, even when the calvarium and brain have been removed, I have found that greater difficulties are encountered, in spite of the exposure, in freeing it from the dural envelope than will be met with when the approach is from the side, as in the operation to be described.

THE DIRECT INFRA-ARTERIAL METHOD.

The method of enucleation which the writer, with some hesitation, proposes to describe makes use of the paramount advantage of the Hartley-Krause operation, namely that of exposure of the ganglion by the temporal route. The trephine opening through the fossa temporalis, however, is sufficiently low so that the extradural manipulations may be conducted *underneath the arch made by the middle meningeal vessel,* which is retracted with the dura and yet remains uninjured at its two fixed points, namely, at the foramen spinosum of the temporal bone and at the sulcus arteriosus of the parietal. Under this arch with but slight elevation of the temporal lobe the entire ganglion and its sensory root may be exposed. The method may be said to give the maximum of exposure with the minimum of cerebral compression and injury of blood-vessels. The operation, therefore, differs only in its details from that proposed by Hartley and Krause; it is, however, upon detail that the success of this, supposedly one of the most delicate of surgical procedures, depends.



Ether chart of Ganglion Case. showing "five minute" pulse-rate during operation, in illustration of compression pulse due to slight elevation of temporal lobe.

Anatomic Notes.—There are certain anatomic features which must be taken into consideration in this particular operative method, or indeed in any method: in the first place, concerning the dural envelope which encloses the ganglion as well as the intracranial portion of its three peripheral branches.[17]

As commonly described, the dura splits and encloses the ganglion in a double layer as it lies in the cavum Meckelii. This fibrous envelope is closely adherent to the ganglion, and experience has shown that the point at which the layers are most easily separated is at the area of dural attachment about the superior maxillary nerve, where it enters the foramen rotundum. This is the first point at which the simple elevation of the dura is resisted and, by careful blunt dissection, working between this point and that of its second attachment at the foramen ovale, it is found to be a comparatively easy matter to split the enclosing envelope between these two points and to elevate the upper layer of the ganglionic sheath, leaving the ganglion entirely exposed and lying attached to the basal layer of its sheath in the ganglionic fossa. There is, however, in addition to the thick dural layer of the envelope thus elevated, a second, thinner layer of transparent fibrous tissue which overlies and is attached firmly to the ganglion, extending backward over the sensory root—N. trigeminus—but which does not cover the three peripheral divisions as does the rest of the sheath. An attempt has been made to show this second layer in Fig. 2, after its separation from the ganglion, and I am ignorant as to whether this has been heretofore described. After elevation of the main dural sheath and exposure of the three peripheral branches this thin second layer is left intimately adherent to the ganglion, binding it and the sensory root to the underlying tissues. I believe this to be the chief obstacle to evulsion of the ganglion *in toto*, as it is ordinarily attempted.

The importance during the operation of leaving the ganglion attached to the underlying portion of its sheath, and of not elevating it until the final step, is due partly to the fact that it is much less difficult to free it from the underlying surface of dura and bone below than from the elastic cerebral surface, as will be emphasized later, and furthermore because the blood-supply of the structure comes almost entirely from beneath. The chief supply ordinarily comes from a branch of the meningeal soon after its entrance into the skull, and consequently the third division—N. mandibularis—is often the most bloody one to liberate. A small branch usually comes from the carotid and passes over the sixth nerve—N. abducens—to the under surface of the ganglion. Another common branch is a small radicle of the ophthalmic to the first division; another by way of the foramen ovale is the lesser meningeal. and occasionally a branch appears through the foramen rotundum from the internal maxillary artery.

Relative to the middle meningeal artery, it not infrequently happens that the vessel communicates with the lacrimal artery by an anastomotic branch through the outer angle of the sinus sphenoidalis. Occasionally the latter artery may derive, in this way, its main origin from the meningeal, or vice versa the meningeal from the lacrimal. Under these circumstances it can be seen that the vertical extent of the arch under which we must work is somewhat narrowed. Such an anomaly was met with in Case 4 of my series; it nevertheless did not seriously encroach the field of view.

---

[17] It is superfluous to say that an operation on the ganglion by any route should not be undertaken without perfect familiarity with its anatomic relations, and it is important that this familiarity should be gained by way of the particular method of approach selected. Only after a great number of operations at the autopsy table can one satisfactorily train his reflexes to appreciate the degree of force which it is necessary to apply at the edge of the ganglionic dural sheath in order that it may be split and the ganglion exposed by lifting away its superior covering, and similarly the force which may be applied in the subsequent elevation of the ganglion and its four branches from the underlying dura to which it has been left attached. For this procedure the only instrument which is requisite is a blunt dissector of proper shape. and in the possibilities offered by the one selected, the operator should train himself. Only after repeated operations on fresh cadavers possessing skulls of various indices did the writer feel justified in dealing with the ganglion at the operating-table and confident of removing it *in toto.* To satisfactorily free the entire ganglion is a delicate procedure and familiarity with the crackling sensations imparted to the hand while liberating it from its dural envelope can not be overvalued. I know of no operation which could be undertaken without such preliminary experience with equal rashness. I have found the experience *gained from practice on ordinary anatomic material to be unsatisfactory.* The toughening of the dried dura and altered consistency of the ganglion and brain imparts, through the dissecting instrument, sensations markedly different from those which are given by fresh tissues. I have performed this particular operation on autopsy subjects about thirty times, and have removed the ganglion in a number of other ways, invariably in a much less perfect state of preservation. It is extraordinary how much easier it is to remove the ganglion through an opening in the temporal fossa by this method than it is through an open cal [illegible] after the [illegible] has been removed.

Another factor may occasionally interfere with the view of the ganglion, one which has been encountered especially in skulls with a broad cephalic index, and this is the more embarrassing since the ganglion in such brachycephalic cases may lie from 1 to 1½ cm. deeper than usual. This obstruction consists of a bony prominence which, in slight degree, is present in all skulls, but at times is sufficiently developed to partly hide the ganglion when viewed from the side and to ward off the curved blunt dissector in its approach to the ganglion. This process, apparently unnamed,[18] is more or less developed in all skulls and is roughly indicated by the elevation at the lower rim of the operative foramen in the drawings that accompany this paper. The process is situated to the outer side and slightly anterior to the foramen ovale on the greater wing of the sphenoid between the row of sphenoidal foramina and the sutura sphenosquamosa. In Case 2, a patient with a markedly brachycephalic skull, it was necessary to chisel off the top of this prominence before the ganglion could be attacked. A similar and still more developed bony protection renders the ganglion operation in dogs almost impossible.

Underlying the lower sheath of the ganglionic envelope posteriorly there is usually to be made out a dense triangle of fibrous tissue which partly covers the foramen lacerum and under the anterior edge of which the carotid artery emerges. Over the artery and close to the edge of this ligamentous structure, and consequently near to the inner edge of the ganglion, the sixth nerve—N. abducens—passes. It is in this situation, on account of the diminished likelihood of injuring the sinus cavernosus, which is only expressed farther forward, that I have preferred to attack the ganglion and its sensory root when it becomes necessary during the process of liberation to pry the structure outward in order to free the attachments of its inner border. I have been able in this way to avoid injury of the sinus and to remove the first division—N. ophthalmicus—by freeing it from behind forward, though I have invariably caused a paralysis—fortunately only temporary—of the sixth nerve. Injury to the sinus, however, is not such a calamity as is usually presumed. An interpretation of its character is given in Spalteholz' Handatlas der Anatomie (Zweite Auflage, 1899, Bd. ii, S. 397 und 441), which is much less startling to an operator than the manner in which it is usually depicted as resembling the other cranial sinuses.

DESCRIPTION OF THE OPERATION WITH DISCUSSION OF THE VARIOUS STEPS.

1. *Formation of muscle flap and exposure of the temporal fossa.*—A horseshoe-shaped skin incision is made in the temporal region, its base about 4 cm. in breadth, corresponding to the zygomatic arch, and its convexity reaching about 5 cm. above it, but slightly higher than the level of the pinna of the ear. (Cf. Fig. 3.) The incision, therefore, needs to be much lower and may be considerably smaller than that for the Wagner osteoplastic procedure as adopted by Hartley and Krause. This skin flap is turned downward, some branches of the temporal artery being divided in the process, until the underlying temporal fascia is exposed well on to its attachments to the zygomatic arch and the posterior or temporal border of the malar bone. An incision is then made through the temporal fascia concentric with and just inside of the skin incision, and at the base of the skin flap it is carried along the middle of the outer surface of the zygomatic arch through the periosteum down to the bone. The periosteum is then elevated from the bony arch, leaving the masseteric attachment at its lower edge uninjured, and the zygomatic processes of the malar and temporal bones (Cf. Fig. 1) are divided with heavy forceps as in the resection of a rib. An incision concentric with the skin incision is then carried down through the temporal muscle, and the muscle is scraped away from the bony wall of the temporal fossa, to which it has no attachment in this situation, and retracted downward together with the resected portion of the zygoma and into the space which this bony arch formerly occupied. (Cf. Fig. 3.) In this way the lower portion of the temporal fossa of the skull, as far down as the attachment of the external pterygoid muscle below the infratemporal crest, is well exposed.

Discussion of Step.—The one deformity consequent to the operative method via the temporal route follows upon the incision through the temporal fascia, namely, the division of the branches of the facial nerve which supply the occipito-frontalis muscle. As a result, there is a post-operative inability to elevate the eyebrow on the affected side. This paralysis, however, is not apparent during expressional rest except in old individuals in whom there may be some resultant smoothing out of the cutaneous wrinkles on that side. This deformity is well shown in the photograph of one of Krause's patients. (Op. cit. S. 44, Abbildung 14.) I have found that it is necessary to temporarily resect the zygoma in order to satisfactorily retract the temporal muscle. A downward displacement of the bone, of only a centimeter or two, is all that is required to make room for the muscle, which otherwise would arch up over the zygoma and prevent proper exposure of the lowest portion of the fossa temporalis. It is easier to preserve than to detach the bony fragment, on account of the firm attachment of the masseter. This is not a necessary detail, however, and perhaps it would be advantageous to remove it. A new zygoma in one of my cases has reformed after excision, and possibly in this case there is less post-operative deformity since the atrophy of the temporal and masseter muscles shows less plainly than in the other cases in which the arch of the replaced zygoma seems unduly prominent on account of the sunken fossæ above and below it.

2. *Exposure and elevation of dura as far as the ganglionic sheath.*—With a mallet and gouge, a small trephine opening is made through the most prominent portion of the exposed great wing of the sphenoid, and with rongeur forceps this opening is enlarged to a diameter of about 3 cm., its lower margin being carried well down and possibly including the ridge between the temporal and zygomatic fossa—the crista infratemporalis. The uninjured middle meningeal artery runs on the dura thus exposed, across the opening in the bone as the diameter of its circle. (Cf. Fig. 1.) The dura, with this vessel, may then be easily lifted, almost bloodlessly, from the base of the middle fossa until the first point of firm dural attachment at the foramen ovale is reached.

Discussion of Step.—It has seemed unnecessary to the writer to attempt to make an osteoplastic flap even were it possible to deal with it in this deep situation, for the reason that the opening to be made through the skull is so small and after-closure of the wound so well protected. It is possible, indeed that new bone is subsequently formed to cover the defect, since the slight pulsation of the flap which is apparent for some time after the operation ultimately disappears. It is well to make the first opening in the bone at the upper part of the proposed area of removal, since, it is easeier to bite away the bone with the rongeur forceps in a downward direction, and furthermore, because as the base is approached the sphenoidal wing becomes much thicker—occasionally 5-6 mm.—and consequently is less easily penetrated with the mallet and chisel. Care must be taken in the use of the *gouge*, since the bone is at times exceedingly thin and one or two strokes with the mallet will carry the instrument through. Additional care is necessary for the middle meningeal artery is usually exposed by the first small opening in the skull. It ordinarily runs beneath the most prominent part of the wing of the sphenoid and squamous portion of the temporal bones, which have been uncovered, and this is naturally the point selected for the primary opening.

---

[18] One might presume to call this the processus fasciei cerebralis ossis sphenoidalis according to the His nomenclature.

It is important in view of preservation of the ganglion and avoidance of possible injury to the deeper vessels that no fragments of bone be allowed to fall down between the skull and dura, since at a later stage of the operation, when it is necessary to firmly press pledgets of gauze against the ganglion to check the bleeding from its underlying arterioles, these spiculæ may, as occurred in one of my cases, be firmly driven into its substance. By a similar accident one of them might be driven into the sinus. Occasionally the prominence, which has been described above, as present on the floor of the fossæ, may be of sufficient size to later interfere with a satisfactory approach to the foramen ovale. This may then be chiseled off or the floor of the fossa rongeured away so as to include it. In the drawings, I have not made the trephine opening quite low enough. It should be carried down so as to include the crista infratemporalis, which therefore should not be shown preserved as in Fig. 1.

3. *Elevation of dura with meningeal artery and exposure of upper surface of ganglion.*—By careful blunt dissection with the proper instrument, and by working at the dural attachment about the foramen rotundum and in the line between this point and the foramen ovale, where it is again firmly attached, the edge of the dural envelope which encloses the ganglion and its peripheral intracranial branches may be split, and by careful elevation the entire upper surface of the stellate structure be exposed well back on to the sensory root, the ganglion being left in its bed still adherent to the underlying portion of the envelope.

Discussion of Step.—This procedure should be attended with but little hemorrhage, since the blood-supply, as heretofore stated, is from below. It is of importance that *the ganglion should not be elevated in this maneuver,* since it is advisable to postpone what degree of hemorrhage is unavoidable as long as possible, and furthermore because it is much easier to elevate the overlying dural sheath from the ganglion if its attachments to the unyielding base have remained uninjured. This entire procedure is carried on under the arch made by elevating the temporal lobe and its overlying dura and artery. A simple spatula of about 2¼ cm. in width, which can be bent at the proper angle, makes the most satisfactory retractor for these structures. (Cf. Fig. 3.)

4. *Liberation and extraction of ganglion and its branches.*—After the exposure of the upper surface of the ganglion and before division of any of the peripheral branches, these three nerves with the ganglion and trigeminal root should be liberated from the attachments to the base. (Cf. Fig. 2, right side.) This is readiy accomplished by working with the blunt dissector in the crotches between the second and third divisions and also along each side of the nerves. After the ganglion and the second and third divisions have been liberated and can be lifted up by the dissector, it is necessary to free the superior and internal edge of the trigeminal root and first division. It is well to conduct these manipulations as near as possible to the sensory root, since that is the safest point and one at which there is less likelihood of injuring the cavernous sinus and sixth nerve. The ganglionic structure may thus be completely liberated (as shown in Fig. 2) without division or laceration of a single branch. With a firmly locking pair of hemostatic forceps—I have used Kocher's—the structure may then be grasped just back of the site of the true ganglion on the trigeminal root; the three peripheral divisions are in turn held up with a blunt nerve hook and divided with scissors close to their foramina; the sensory root is then evulsed by means of the previously attached pair of forceps.

Discussion of Step.—This part of the operation is the most difficult and the one in which preliminary training on the cadaver is found most essential. The degree of force necessary to separate the ganglion without injuring it, for if lacerated or torn away from its roots its extraction becomes most uncertain, can only be learned by experience which should hardly be gained at the expense of the patient. The operator's reflexes should have become familiarized with the crackling sensations imparted to the hand on separating the adhesions at one point or another during the process of liberation. The bleeding which follows on the maneuver, especially about the foramen ovale, is sometimes very annoying but ordinarily may be checked in a few minutes by the pressure of a pledget of gauze. It would naturally be supposed that the proximity of the meningeal and its fixed point at the foramen spinosum would be an embarrassment, especially when an attempt is made to liberate the third division by insinuating the elevator under the posterior border of the nerve—N. mandibularis—between it and the artery. This I have not found to be the case.

I do not see how the third and fourth nerves can be injured in this procedure; the sixth, however, lies very near the ganglion, has always been seen and, I must confess, injured in each of my four cases. This, however, has fortunately occasioned only temporary symptoms, the resulting internal strabismus having disappeared in each case in the course of a few weeks. In one instance I felt certain that I tore the nerve across; if so it must have regenerated. There has also resulted in all of my cases a temporary paralysis of the sympathetic with contracted pupil. This has invariably disappeared much earlier than the motor paralysis of the abducens. As stated above, it is well in the liberation of the first division—N. ophthalmicus—to free the nerve at the ganglionic end and to strip it out from behind forward if it is desired to remove it at all, else the cavernous sinus may be injured. This accident, however, is by no means such a calamity as it is credited with being. The sinus is not an open canal, as usually believed, but made up of compartments in which local thromboses may occur readily and promptly, and thus hemorrhage be controlled by a few moments of pressure. Bleeding from the small ganglionic arteries about the foramen ovale may be much more annoying. On one occasion I accidentally plunged the dissector directly into the sinus anterior to the ophthalmic border of the true ganglion. The profuse momentary hemorrhage ceased after a few moments of pressure with some gauze. The trigeminal sensory if properly extracted invariably comes away from the pons where it is loosely attached. I have never seen any evidence of shock consequent upon this procedure such as Horsley describes in his single case.

5. *Closure and Dressing.*—The zygoma and flap of skin, muscle and fascia are replaced. The zygomatic arch in my first case, as stated, was removed, and in one of the later ones wired in position. This is an unnecessary detail inasmuch as the masseter is paralyzed and the resected portion of the bone when replaced remains in position. The temporal muscle and fascia are secured in place by fine interrupted sutures at the upper curve of the incision, and a few sutures are taken in the divided periosteum and fascia over the replaced zygomatic arch. In applying the dressing the eye is covered by a large sheet of rubber protective which bridges across from the nose and forehead to the malar prominence of the cheek and prevents the pressure of the bandage against the eye. In none of my four cases has the wound been drained, and in none has there been failure to obtain healing by primary union: the resulting scar has been very slight (Cf. Fig. 4), and in one instance hardly to be detected. An unsightly scar, such as is shown in many photographs of cases, would almost deter a surgeon from the operation.

I have not found it necessary to suture the lids as has been advocated, in treatment of the eye. In fact, I should think the local reaction resultant to this procedure would be detrimental in case there was an ensuing keratitis, which apparently is at times unavoidable. The simple protective method which has been used is shown in the accompanying photograph of one of the patients.

The eye is thus kept moist, protected from dust and the patient may deemly see through the covering. A Buller shield answers the same purpose.

It is not the writer's intention on this occasion to take up the physiologic aspects of the four cases which have been operated on, nor to report the histories in any detail, except in so much as they may be of value in interpreting the pathologic lesions, to be described by Drs. Barker and Spiller. The physiologic question relative to disturbances of taste and of secretory activity in the trigeminal area, the consideration of the post-operative areas of sensory anesthesia, the discussion of the so-called trophic changes consequent on removal of the ganglion, and similar topics, must be left to a subsequent communication in spite of the fact that they doubtless represent the most interesting side of the Gasserian ganglion question, and one which is second only in importance to its pathologic aspect. The photographs show that in each instance the ganglion and intracranial roots have been completely removed and the resulting anesthesia has been absolute over the entire area of trigeminal sensory distribution in consequence. The completeness of the post-operative anesthesia may be regarded as an index of the totality of the extirpation.

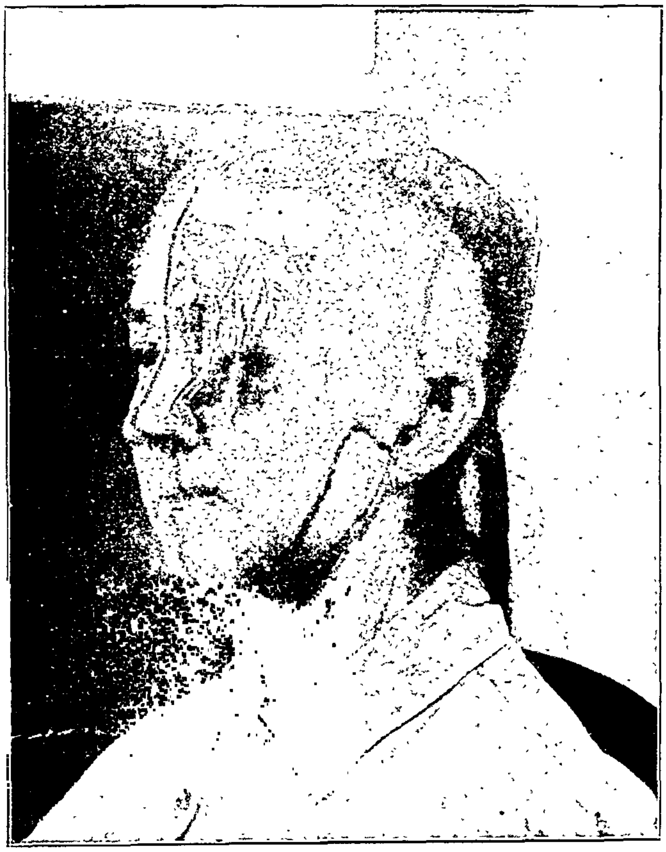


Fig. 4. Photograph of Case 4, taken on the tenth day in illustration of a method of protecting the eye.

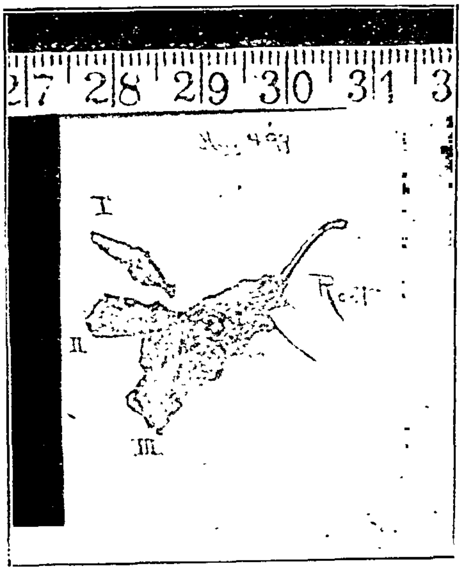


Fig. 5. Specimen from Case 1. (Dr. Spiller). Photograph was taken from the fresh tissue and consequently shows points of high light. The first division (I), (N. ophthalmicus) was removed as a separate piece after extraction of the ganglion and other branches. The tissue was placed in Muller's fluid one half hour after removal.

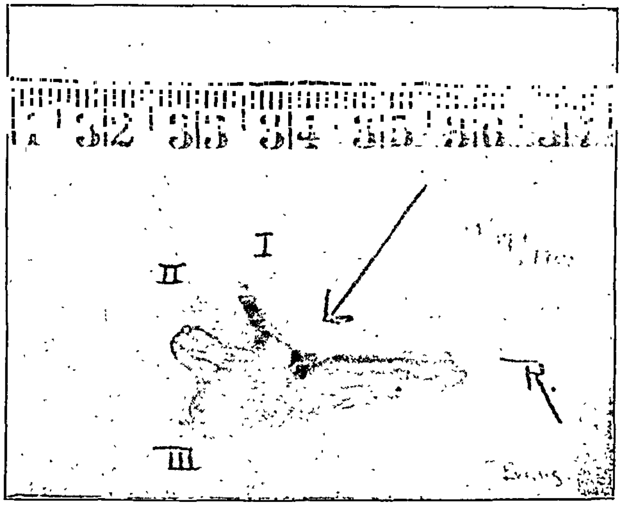


Fig 6. Tissues removed from Case 2. (Dr. Spiller). The arrow indicates the direction of application of the evulsing forceps, whose imprint shows upon the ganglion. Photograph taken from specimen after hardening in formalin, and high lights as in Fig. 5, from reflection of fresh tissues do not appear.

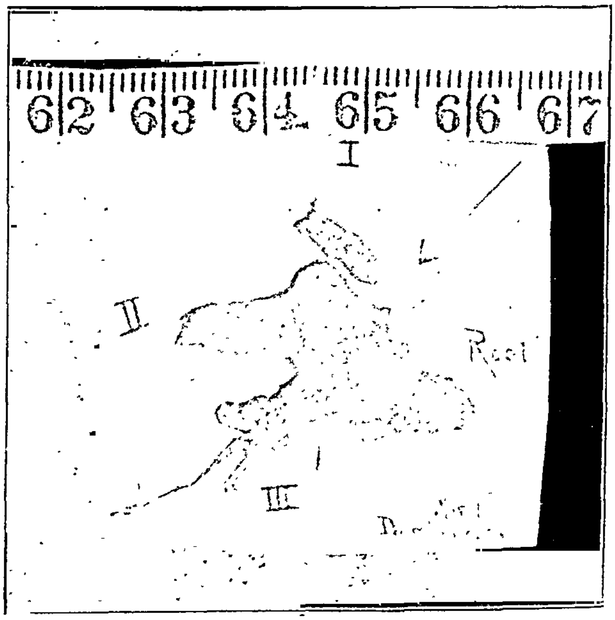


Fig. 7. Specimen from Case 3. (Dr. Spiller). The arrow points to the line of impress of the evulsing forceps. The third division (N. mandibularis) is considerably lacerated as an unsuccessful attempt was made to evulse this from the foramen ovale instead of dividing the root as usual. Shreds of the motor root can be seen distinct from the rest. The first division (N. ophthalmicus) was torn away from the ganglion during its elevation and was removed from the wall of the sinus after extraction of the ganglion. Photograph taken after hardening in formalin.

It will be noted that the ganglia of the first two cases examined by Dr. Spiller were removed during a period

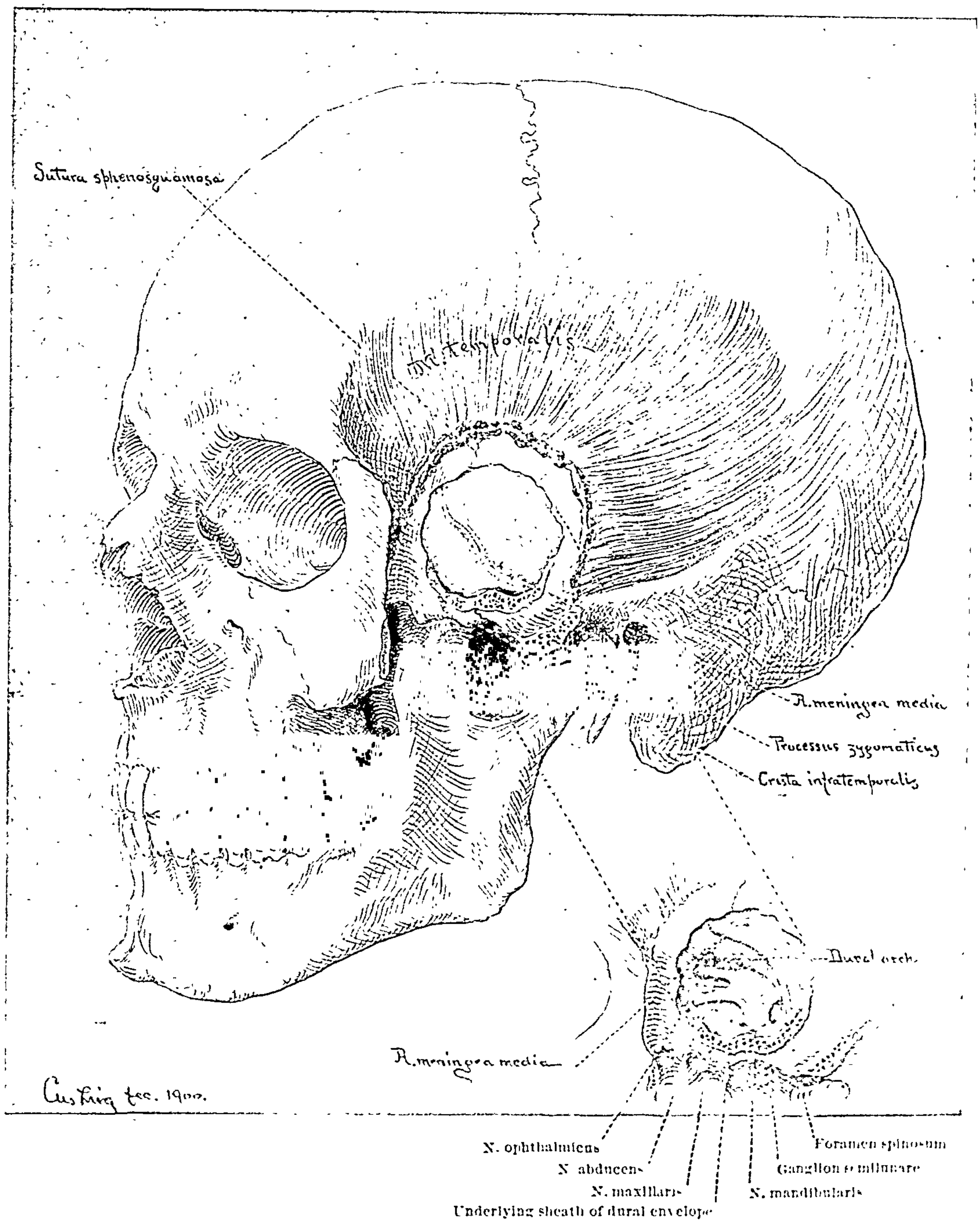


FIG. I.—Showing relations of the middle meningeal artery to the operative foramen before and after elevation of the dura and exposure of the ganglion.

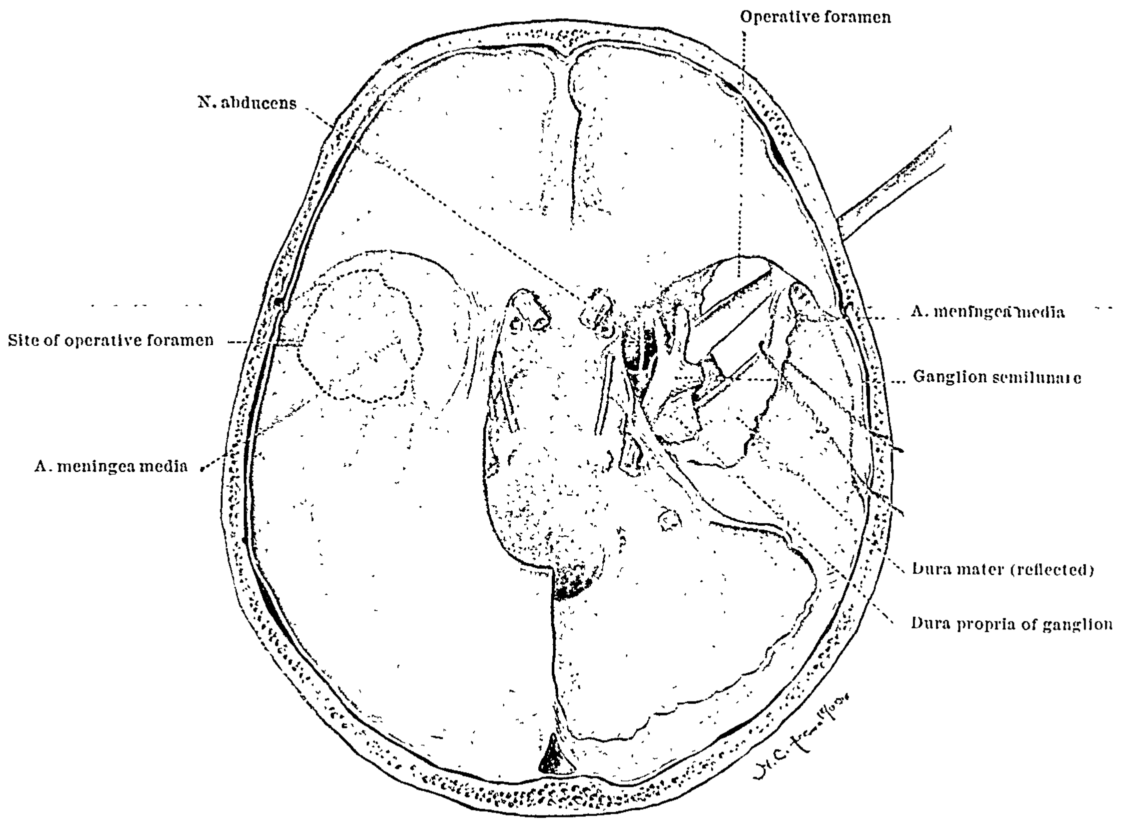


Fig. II.—Showing on the right, after reflection of the dura, the ganglion and its intracranial branches liberated from their dural envelope and elevated by the blunt dissector introduced through the operative foramen; on the left, the dura in situ and the relation of the operative foramen to the ganglion and middle meningeal artery.

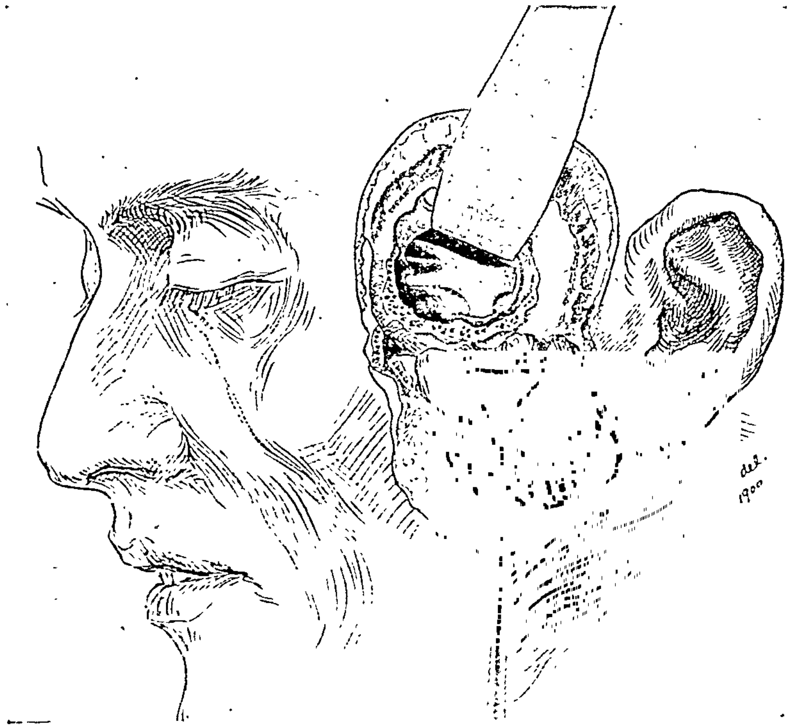


Fig. III.—Sketch from cadaver of the field of operation; showing situation of the incision, retraction of temporal muscle over displaced zygomatic arch, osseous foramen and final exposure of ganglion under meningeal arch.

of extreme exacerbation of the neuralgia. In Dr. Barker's cases the operation was performed during a period of comparative freedom from pain. Brief summaries of the histories preceding the operative period are as follows:

CASE 1.—James W., 63 years of age, entered the hospital Aug. 2, 1899. He had been a sea captain by profession until the onset of his right-sided neuralgia, from which he had suffered for ten years. The pain occurred originally in the third division of the trigeminus. In July, 1896, and again in June, 1897, two peripheral operations with evulsion of the infraorbital and inferior dental nerves had failed to give him more than a few weeks of respite from pain. For the two years before entrance he had been bed-ridden, and his sufferings had had no remission. At the time of operation his extreme paroxysms occurred every minute and a half on an average, and with only slight relief during the intervals. His chief point of radiation of pain was just below the outer corner of the mouth. From there the pain spread into the territory of all three divisions of the N. trigeminus during the paroxysms, to terminate at a point near the parietal eminence. The ganglion is shown in the accompanying photograph (Fig. 5).

CASE 2.—W. E., 55 years of age, entered the hospital Dec. 17, 1899. He had been a business man until neuralgia interrupted his activities. He had suffered from pain, which appeared primarily in the distribution of the infraorbital branch, for twelve years. In 1892 the infraorbital nerve was evulsed, with relief for several months. On the return of pain, the inferior dental became involved, and subsequently the supraorbital region and pain finally extended to the territory innervated by the suboccipital nerves. His sufferings for several months before entrance were such that he had been in confinement and, on admission to the hospital, he was practically maniacal. His chief pain point from which the paroxysms radiated was situated in the right nasolabial fold. His sufferings were continuous, with exacerbations every few moments, or consequent on the slightest peripheral stimulus. The ganglion and branches are shown in the accompanying photograph (Fig. 6).

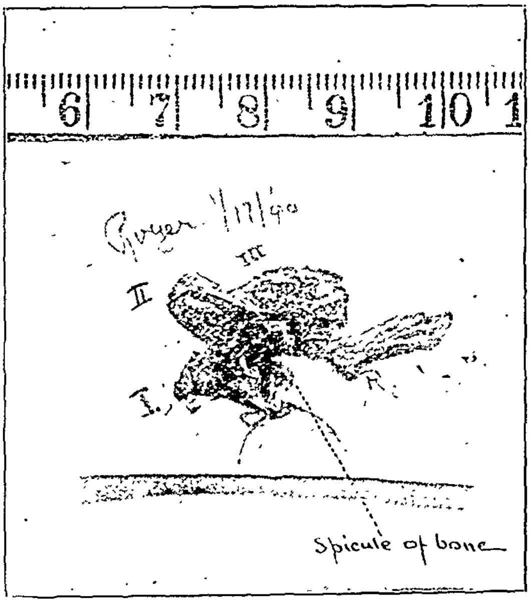


Fig. 8. Specimens from Case 4. (Dr. Barker). A spicule of bone is shown driven firmly into the ganglion, which was not removed in a good state of preservation. The sensory root (R), (N. trigeminus) tore away from the ganglion during extraction and was subsequently removed. Photograph taken after hardening in formalin.

CASE 3.—A. D., 38 years of age, a shoemaker by trade, entered the hospital in January, 1900, having suffered from trifacial neuralgia for only two years. The onset was attributed to exposure and pain, and was at first limited to the supraorbital area. One year later the infraorbital region became involved and soon the whole territory of the third division, the pain during the paroxysms extending into the suboccipital region. In March, 1899, by peripheral operations, I evulsed an inch or two of the inferior dental and infraorbital nerves, which showed the usual histologic changes after being removed. After relief for eight months the pain returned—November, 1899—with renewed vigor. The paroxysms at the time of entrance were not frequent nor very severe. The pain spread downward from the supraorbital division into the territory supplied by the second and third branches. The patient was operated on during this interval of comparative freedom. The ganglion is shown in Fig. 7.

CASE 4.—Elizabeth R., 60 years of age, had suffered for seven years from left-sided tic-douloureux, which originated in the superior maxillary branch of the trigeminal nerve, and was attributed to exposure. The definite point of origin of her paroxysms had always been situated near the ala of the nose. In August, 1897, 5 cm. of the infraorbital nerve was evulsed (Cushing) from the floor of the orbit. The nerve histologically showed the usual degenerative changes. Relief ensued for sixteen months, after which interval, with the return of pain the first and third divisions became invaded. In June, 1899, the regenerated nerve from the same situation was again evulsed (Mitchell) with subsequent relief for only four months. In January, 1900, the ganglion and roots were removed *in toto*, though with considerable difficulty and not in a good state of preservation. (Cf. Fig. 8.) The operation was performed during a period of comparative freedom from pain.

(This Symposium will be concluded next week.)

MEDICAL ETHICS AND MEDICAL JOURNALS.*

BY P. MAXWELL FOSHAY, M.D.
EDITOR, CLEVELAND JOURNAL OF MEDICINE.
CLEVELAND, OHIO.

To most of us the average paper concerning our intraprofessional relations is somewhat tiresome. In many quarters the dignity of medical ethics has been most loudly preached by those lacking experience in its practice. It is little to be wondered at, therefore, that the subject is not a popular medical society topic. Despite this acknowledged fact, I have determined to present some desultory thoughts concerning a subject that seems to me to be so important to the welfare of medicine as to deserve most earnest consideration. Duty may not be shirked because it is unpleasant.

Physicians are to-day face to face with many vital questions that can not be indolently ignored. Sapping professional honor to its very vitals is the matter of the giving of commissions for referred cases by the specialist to the general practitioner, involving as it does the points as to whether medicine is a profession or a trade, and as to whether our patients are sentient beings or mere purchasable and transferable commodities. From this and other problems the present paper turns to some consideration of the shocking abuses that have sprung up in the realm of medical journalism. Even as the specialist, from greater opportunity, is permitted to assume the possession of superior knowledge and experience in his chosen branch, so may, perchance, the medical journalist be permitted to offer some expert testimony as to the evil tendencies that he is forced constantly to observe.

The profession is not alive to the damage that it is suffering in the eyes of the world by reason of the present degradation of American medical journalism. As peoples, races and communities are judged by their literature, so is the profession of medicine perforce judged in large measure by its books and its journals, especially the latter, because it is presumed that they more accurately reflect the sentiment of the average readers. Admittedly the topic is not new, but honest facts will bear restating.

There are now published in this country some 250 medical journals of all kinds. Does the profession demand so many? If not, why are they issued? and how do they live? Many—including some of the best known—are owned by great publishing houses that are frankly engaged in the effort to accumulate wealth, both directly from their journals and indirectly from the books and other wares that they therein advertise. In the management and course of these publications the profession has little or no voice. Their editors—while they are medical men—have often to submit their judgment of propriety in editorial conduct to the commercial exigencies of the owners. Other periodicals are owned openly or covertly by proprietary-medicine makers, and their object is too obvious to need expression. Still others—too many, in sorrow be it said—are conducted by men of our own profession, whose sole object is self-exploitation, and whose aim is not for an honorable paid subscription list, but for profitable consultation cases. Only a small proportion of our journals are conducted by high-minded men whose single aim is the upholding of the honor of medicine and the directing of professional thought toward elevated ideals. It will thus be seen that medical journalism is in a state of chaos. Close observation shows that there are few medical journals that can not be bribed into defrauding their readers in one way or another, and it is not alone the least among them that sin chiefly in this respect.

---

*Read, by invitation, before the North [illegible] Medical [illegible]tion, Dec. 7, 1899.

There being such a multiplicity of journals, few of them could live alone on their subscription receipts, and the pharmaceutic firms are appealed to for advertisements. The greed for advertising patronage leads the editor only too often to prostitute his pen or his pages to the advertiser, so long as he can secure the coveted revenue. So our journals are filled with articles and editorials containing covert advertisements of this and that remedy. So great has this abuse become that many drug houses—few of the better ones be it said to the credit of the trade—will not deal with a journal that does not, in the advertising contract, agree to publish, in addition to the advertisement in its proper place, and without extra compensation, certain advertising matter among its original articles or editorials. This trick the profession well knows, and already it shows signs of failing of its object, for the physician becomes disgusted with the journal that so demeans itself, and suspicious of the firm that can not be satisfied with placing its wares honestly before the profession in a frank advertisement. Happily also there are signs that the manufacturer is beginning to see whither this practice tends, and to fear the inevitable loss that will shortly follow, when the profession refuses to longer support the journals that thus soil their pages and deceive their readers, or to buy from firms that deal in deception.

In a clever editorial, the *St. Paul Medical Journal* for November, 1899, frankly divides journals and advertisers into two classes—the honest and the dishonest—and adds that the honest journal rigidly segregates its scientific matter from its advertising pages, and that the honest advertiser appreciates the value to him of space in the honest journal, as the means of attracting to his wares through a plain advertisement the best professional attention. This courageous editorial writer then says: "Granted the above standard of honesty is correct . . . there are not a dozen honest medical journals published in the United States to-day." This statement is sweeping, but it is lamentably true. One of our leading journals has several times in the past year published as scientific matter papers concerning the merits of different proprietary articles, whose importance is far from deserving such attention and whose qualities are much better described in an advertisement. One of these papers was written by a well-known medical author and teacher, and was subsequently republished—to the chagrin, let us hope, of its reputed author—among the advertising pages of a homeopathic journal. Naturally the *St. Paul Medical Journal* wonders how much the author was paid by the firm whose product was thus advertised, and also how much the journal received for the prostitution of its pages to commercial greed.

To-day most journals carefully refrain from expressing any opinion upon many of the important and disputed matters of personal conduct that appertain closely to the physician's life, and some even do not hesitate to vilify those few journals that dare to raise a voice in favor of honorable conduct.

The existence of evil tendencies, however, does not suffice for the sweeping condemnation of all that is. Conspicuous examples of the extraordinary commercial and moral success of journals that do not fear to speak the truth, nor hesitate to condemn that that is evil, while urging the desirability of clinging to that that is good, give rise to a well-founded conviction that immorality in journalism is not what the profession expects from its editors. There is a keen demand for clean ideals and for free condemnation of patent venality.

The flood of sample copies of cheap medical journals on the doctor's desk has become so irresistible that the legitimate journals are all but swamped in the undertow that leads to the waste-basket. Many careless physicians frankly state that there is little need of their subscribing for journals, when complaisant journalists will keep them well supplied with periodic literature free of all expense. The tide seems yet to be rising, as one new medical journal, through the naive statement of one of its advertising patrons, announces that during its first four numbers of existence it has guaranteed to deliver a copy of one issue to every one of the 125,000 physicians of the United States. Others asseverate that they possess suspiciously numerous thousands of paid subscribers, when one doctor who pays for the paper is extremely difficult to find. If any one of you will for a month keep tally of the number of sample copies of medical journals that reach your office, you will be astounded at the total. Yet the "sample copy" is not wholly reprehensible, for it furnishes the only means by which the reputable journal may indubitably submit its merits to your scrutiny. But the honest journal will not send you a "sample copy" of every issue, nor several copies of each issue, and the character of the "sample," as evident to even brief inspection will unequivocally determine whether the copy comes honestly seeking your support for a meritorious undertaking or sneaks into your office to delude the advertiser into the belief that you are a regular subscriber.

The foregoing cursory review of the present status of medical journalism leads naturally and logically to the question: "What is the proper aim of medical journalism?" On the answer to this question depends our conclusion as to the ethics of the problem in hand. Probably few physicians ever stop to consider the reasons for the existence of medical journals, or to formulate, however loosely, the principles that should govern their conduct. To give what is hoped to be a clear answer to this question, to clarify the profession's vision in the premises, and to aid, if never so little, in educating the professional conscience to the appreciation of journalistic evils and of the remedies that may be applied to the existing unfortunate conditions, is the object of this paper. There are certain reasons for the existence of medical journals that are constant and unvarying, and—once appreciated—they render easy the application to all cases of the test of legitimacy and usefulness.

Medical journals should be conducted only for the attainment of the following objects: The prompt diffusion of medical knowledge, the furnishing of a ready means for the intercommunication of professional thought, the elevation of professional morals, the binding together of the medical profession into one harmonious organism, the representation of the best medical thought with the effort to raise the intellectual and moral qualifications of the entire profession to that level, and the extinction of sects and of all unreason in the art or science of medicine. The publication whose course does not conform to these standards has no excuse for existence. It is necessary, therefore, that physicians should know the earmark of the good and of the bad among medical journals, in order that intelligent and discriminating choice may be facilitated.

Like trees and men, medical journals may be distinguished by their fruit. First and foremost eschew instantly every journal that intermixes its original matter with advertisements—such journals are not conducted for any good purpose, and do not meet any of the indications given above as adequate reasons for existence. It is manifestly incumbent on reputable journals to furnish to their readers reliable information of the worth of new pharmaceutic preparations; and not all proprietary remedies are to be ruthlessly and unreasoningly condemned. Nevertheless, beware of that journal that repeatedly publishes cheap reports of limited experience by unknown authorities with remedies that are rightly regarded by reputable physicians with more or less suspicion, because of secrecy of composition or brazenness of exploitation. Such reports and experiences are of no value to the profession, and only those dealing with reputable and ethical pharmaceuticals are worthy of attention. The drug makers will soon learn that the profession is not to be hoodwinked by paid puffs published as original articles in cheap journals. The day for receiving large returns from that method is happily nearly gone, but it should be hastened by all physicians unanimously refusing to read or to be influenced by such articles, or to receive further copies of the journals in which they appear. The application of this remedy will greatly reduce the number of "fake" medical journals. If the profession could only realize the extent to which medical editors are constantly being importuned—even threatened—to cheat their readers by publishing as original matter articles that have been purchased or cajoled from frail or recreant doctors, there would be no hesitancy in applying the above remedy whenever the diagnosis of depraved journalism was made. It is better not to take any journal that repeatedly publishes unscientific articles concerning wares that are advertised in its pages. Unfortunately also it is almost always safe to look askance on those journals that publish "clinical and therapeutic reports," clippings from other journals, and "reading notices" scattered throughout their reading pages. Clean journals either refuse to publish such matter or else plainly include it in their advertising pages.

The preference should always be given to journals that are owned and entirely controlled by medical men. Even though of necessity they often err, it is at least certain that those conducted by reputable physicians are not promoted for mere mercenary reasons. Journals that are supported by or connected with reputable medical societies are universally governed by only the highest motives, and are well deserving of professional favor. Inasmuch as some of the best scientific work, and nearly all the practical advances in medicine, are first reported to medical societies, it follows that the papers and discussions presented are of the very freshest and most definite interest to the profession, and that the prompt publication of this original matter is of unquestioned service to scientific medicine. Foremost in this class stands by right THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, whose national scope and well-recognized merits need no further mention. Other commendable instances of journals of this class will readily occur to your memory. They are deserving of your constant interest and cordial support. Their ascendancy, along with the few other really independent journals, will mean the extinction of disreputable journalism—a desirable end that can be obtained only through the discriminating favor of an awakened professional conscience—and will insure the occupancy by American medical science of a much higher plane than is possible under present conditions.

Know something about the character and reputation of the editor of the journal for which you subscribe. It is not in reason to expect a clean journal from the hands of a self-advertiser or of a man of doubtful reputation, nor on the other hand is it likely that a physician of good character will edit an immoral journal. Be discriminating in your choice of journals. If you accidentally subscribe for one that on trial proves to be venal and to be opposed to the best interests of the profession, stop it and refuse to receive further copies.

That medical journals are overnumerous and too frequently demoralized and virtueless is in the main the fault of the profession, for if these papers were not received and read they would soon, as they deserve, die of inanition. Therefore it follows that the remedy for the existing disgraceful state of the ethics of medical journalism lies in the hands of the great body of the profession. Just so soon as you refuse to in any way countenance the readily recognized indecent journals, just so soon will they die for want of pabulum, for advertisers will be quick to realize that neither covert nor open advertising will pay in journals thus rejected by an enlightened professional conscience. If you are unable to persuade the promoters of these journals to cease sending you copies, write a letter for publication in one of the better class of journals stating the facts of the case, so that both the disgraced profession and the depleted advertiser may plainly see what journals are in ill repute with the profession and endeavor to exist by doubly deceiving both reader and advertiser.

It is not to be hoped that the reforms urged in this paper may be accomplished in a day, but if, in this imperfect manner, the conscience of the profession is aroused by directing attention to some of the evils that afflict American medicine through the shortsighted cupidity of many of its journals, the writer will feel amply rewarded for his effort.

CONGENITAL APHAKIA AND IRIDEREMIA.*

BY FLAVEL B. TIFFANY, M.D.
PROFESSOR OF OPHTHALMOLOGY, UNIVERSITY MEDICAL COLLEGE.
KANSAS CITY, MO.

Congenital aphakia is an exceeding rare anomaly, and is usually accompanied with other serious defects of the eye. The cases I report are of two brothers, aged 21 and 10, who visited my office Feb. 23, 1899. Advised to see me by Dr. Waterman, of Wilson, Kans., they were brought by an older brother who was perfectly emmetropic, with vision of 20/20 of each eye. This brother stated that there were seven children in the family, three of whom, one sister and these two brothers, had some trouble with their eyes; also that the mother had the same affection. An examination showed an involuntary oscillation of the globe—nystagmus of the lateral rotary form—also a gelatinous trembling or vibration of the iris—iridodonesis. The pupils were decentered toward the nasal and inferior quadrant, and would only slightly respond to the mydriatic. There was no history of consanguinity, but one of inheritance from the mother's side. The children having this trouble had brown irides, and those having perfect vision were blue-eyed, although the father had brown and the mother blue eyes. The iridodonesis nearly disappeared when the iris was under the influence of the mydriatic, but reappeared as soon as the pupil was allowed to contract. However, there was a slight trembling at the ciliary margin, seen during mydriasis. The fundus could not be distinctly seen by the direct method, nor did it show very distinctly by the indirect, and by this method the disc appeared convex. It was impossible to get any images by retinoscopy, or by the catoptric test: this I accounted for from the fact that there seemed to be no lens, excepting a small rim of one at the peripheral portion, which was opaque. These opacities seemed to be the residue or remnants of a once existing embryonic lens. They reminded one of a snowdrift nearly melted away. The eyes were all microphthalmic, especially in the lateral diameter. Each boy had one eye smaller, namely the left, and the other was not macrophthalmic. When the pupils were dilated the ciliary processes came distinctly into view. The younger boy had a shaking palsy—lateral—of the head. Each had binocular convergent strabismus and uniocular sursumvergence. The vision of the elder boy was 6/200 and that of the younger 5/200 of each eye.

---

*Read before the Midland Ophthalmological

Iridodonesis is usually accounted for by the loss of the crystalline lens, that is, the posterior support of the iris. In these cases I attributed the trembling of the iris not only to congenital aphakia, but probably to a weakness of the ciliary body and suspensory ligament. The irremediable dimness of vision I considered due to an arrest of development or defect of one or several of the ten layers of the retina. My colleague, Dr. Geo. E. Bellows, also examined the eyes with the ophthalmoscope and corroborated my diagnosis as to the aphakic and probable pathologic conditions of the eyes. For the strabismus I operated on the extrinsic ocular muscles, advancing without tenotomy, conserving all the power of adduction with no loss of abduction, bringing the axes into perfect parallelism, thus not only correcting the strabismus but lessening the iridodonesis to a considerable degree.

The most remarkable thing in these cases is that concave glasses gave improvement of vision showing a high degree of myopia, whereas hypermetropia was expected. I might add that both of these boys, aside from their eye trouble, were of good physical development and of bright intellect, the elder one already a graduate of a normal school and possessing a certificate for teaching.

Since writing this report, the sister of whom I spoke has consulted me with her brother Thomas, who has an iridodonesis with an eccentric pupil to the inferior and nasal quadrant (showing the patients). His eyes are not under the influence of a mydriatic and the iridodonesis is easily seen. He is aphakic, except that there is a remnant of the peripheral lens remaining, and he is also myopic. The iris trembles like a mass of jelly throughout its entire extent, and the trembling is more pronounced at the ciliary margin. In the sister Elva, aged 24, the right eye is disorganized; the cornea is not only opaque, but has retrograded, having a yellowish exudate throughout all of the laminæ; it is flattened antiposteriorly, is a shrunken, old phthisical eye and totally blind, with an increased ocular tension (T.+2). The left eye is also diseased, there being an interstitial vascular keratitis with an increased intraocular tension (T.+3), and only vision sufficient to discern an object when passed between the eye and a bright light. She is scarcely able to see or tell the direction from which the light comes in a dark room. The cornea, however, of her left eye, is not so opaque but that you will be able to illuminate the fundus and get a slight retinal reflex. There is some keratoconus, but there is no iris.

A few weeks ago I reported my first case of irideremia, the only one out of 25,000 patients seen within the last twenty years and now, following close on the heels of this first one, comes the second. It is with some hesitancy that I present my second case, it being such a rare affection and coming so soon after the first one. There is no iris present in this young woman's left eye, and the ciliary bodies here are to be seen. (The eyes were examined by the oblique illumination as well as by the direct and indirect methods, by several of the members present, all corroborating the diagnosis, especially agreeing that there was complete irideremia of the left eye.) May 19, I enucleated the right eye of Miss Elva and, on cutting it open, I found a fluidity of the vitreous humor, of a ceroplastic nature, the cornea hypertrophied and opaque, no iris, but a dense thick fibrous membrane stretching entirely across from the corneoscleral junction in front of the vitreous body. This membrane seemed to be in part an extension of the hyaloid membrane, besides being of a neoplastic nature. The crystalline lens was lodged between this membrane and the cornea, and was perfectly calcified, being as hard as a stone. From the fact that in the two brothers of this family there is aphakia, or absence of the crystalline lens, we need not be too much surprised in finding irideremia or absence of the iris in the sister. It is, however, most remarkable that two patients with this rare anomaly, irideremia, should have presented themselves so closely together.

805 McGee Street.

TREATMENT OF VARIOLA BY BICHLORID BATHS.

BY H. A. INGALLS, M.D.
CINCINNATI, OHIO.

During March, April and May last, Dr. R. L. Yeager and myself treated thirty-six cases of variola, of which one was hemorrhagic and thirteen confluent, without mortality, by means of these baths.

Our first case was seen in the papulo-vesicular stage, and we began the baths with the view of lessening the stage of pustulation, thereby securing a minimum of pitting, believing that pustulation was due to the ordinary pus cocci in the pores of the skin, and that in those vesicles that did suppurate the destructive process would be limited to the superficial layer. This case was a confluent one and we were pleased to note that not only was the disease lessened in pustulation and pitting, but that the patient was fairly comfortable, no opium being needed, and there was but little distortion of features at the beginning of the stage of pustulation and but a trace of the peculiar odor of the disease could be detected. That the baths were comforting is evidenced by the fact that the patient asked for them in case of delay. The method of giving the treatment was as follows: A six-foot bathtub was placed beside the patient's cot and filled with a fairly warm —103-105— solution of bichlorid, 1 to 10,000, and the patient placed therein, head and shoulders above the solution; the nurse then went over the entire body, using a soft cloth, being careful of force applied so as not to cause much pain. After remaining in the bath about ten or twelve minutes, the patient was removed, thoroughly dried, dressed in freshly laundried clothing and placed in a clean bed.

These baths were given night and morning. After removal from the bath the patient expressed much relief, but shortly after, owing to the drying effect, complained of a burning sensation "just beneath the skin." We found that all were likewise affected, so, to obviate this, we began a routine practice of anointing patients immediately after the bath with a mixture of carbolic acid, bismuth subnitrate and olive-oil, with a very happy result.

Our observations lead us to believe this the best treatment yet offered. To substantiate this I give below short reports of Cases 8, 9, 10 and 11 of our series.

Case 8.—R. M., a male, aged 6 years, never vaccinated, gave a history of exposure. First seen a few hours after the initial chill, his temperature was 104.6, pulse 132, respiration 29. On the morning of the third day eruption could be noticed appearing on the forehead at the edge of the hair. Temperature returned to normal on the evening of the sixth day, and remained so, there being no secondary nor suppurative fever in this case. A few of the vesicles went on to suppuration and a small number of shallow pock marks could be observed when the patient was discharged.

Case 9.—F. M., a female, aged 30, was never successfully vaccinated. Seen shortly after the initial attack, her temperature was 102.6, pulse 98, respiration 20. On the morning of the fifth day of the disease temperature was normal, remaining so until the seventh day, when pustulation began and temperature went to 100. This was the highest point reached during the suppurative fever. The temperature returned to normal on the tenth day of the disease and remained so. This case was of the confluent type, and there was considerable puffing about the face at the beginning of the stage of pustulation, but not the horrible distortion usually seen in this form of the disease. A few deep pock marks were to be found at the time of discharge.

Case 10.—P. W., a male, aged 22, was first seen when in the papulo-vesicular stage, with a history of severe onset. The temperature was 101.8, pulse 98, respiration 30. On the fourth day of treatment, about the tenth of the disease, the temperature reached 102.6 and was normal (to continue so) on the eighth day of treatment, about the thirteenth of the disease. This case was also of the confluent type and, with the exception of the pustular stage the features were not much distorted, the patient complained so much that morphia was given. This patient was considerably pitted.

Case 11.—M. H., a male, aged 20, gave a history of severe onset. Seen in the papular stage, the temperature was 98.8, pulse 72, respiration 24. On the fifth day of treatment, about the ninth of the disease, the temperature reached 100.2, returning to normal (to remain so) on the eighth day of treatment, about the twelfth of the disease. His features were swollen at the beginning of the stage of pustulation, but not repulsively so, as in Case 10. There was but a slight amount of pitting.

Comparing the above cases it will be noticed that the disease is shortened by this treatment. Cases 9 and 10 were of the confluent type, and the one treated from the onset returned to normal four days sooner than the one in whom the treatment was begun after the stage of vesiculation had been reached, and even in this case the disease was aborted three or four days.

Bibb and Osborn have recently reported using these baths with great success, the former reporting several hundred cases in the practice of colleagues, without mortality. I have not had the pleasure of perusing a description of their technique, so am unable to say how it resembles or differs from the above.

Taking the above facts into consideration I think the following deductions can be made in regard to this treatment: 1. There is practically no mortality. 2. The suppurative fever can be shortened four to six days if patient is treated from the onset. 3. A minimum of pitting is secured and an almost entire absence of the characteristic, disagreeable odor. 4. The period of desquamation is materially lessened owing to the thinness of the scab formation. 5. Pain is much reduced; morphia being rarely indicated. 6. The great distortion of features, which gives us such repulsive looking patients, is eliminated to a great extent.

Berkshire Building.

THE SMEGMA BACILLUS.

BY OSCAR A. DAHMS.

CHICAGO.

(Concluded from page 986.)

THE SIGNIFICANCE OF THE SMEGMA BACILLUS IN THE DIAGNOSIS OF TUBERCULOSIS AND SYPHILIS.

Repeated allusions have been made to the striking similarity which exists between the smegma bacillus and the bacillus of syphilis, of tuberculosis, and of lepra. It is obvious that errors in the diagnosis of these diseases, especially of tuberculosis, might lead to serious consequences, and it is further apparent that because of the close resemblance between these microscopic forms, there exists a dangerous possibility of the occurrence of such mistakes whenever a diagnosis is to be based on the detection of the presence of the specific bacillus in physiologic or pathologic fluids and secretions. For these reasons it has been the aim of many experimenters to devise infallible differential stains for these organisms. Considering the comparative unimportance of a differentiation between smegma and lepra bacilli, no further attention will be devoted to that subject here, but the one toward which the careful efforts of numerous observers have for so many years been directed, viz., the successful differentiation between smegma and syphilis bacilli and smegma and tubercle bacilli, requires to be dealt with at some length.

Lustgarten employed the following method to distinguish the syphilis bacillus in sections of syphilitic tissue: 1. Anilin water-gentian-violet solution, twelve to twenty-four hours at ordinary temperature, or two hours at 40 C. 2. Wash in absolute alcohol several minutes. 3. Immerse in an aqueous solution of potassium permanganate—1½ per cent.—ten seconds. A brown flocculent precipitate of manganese hyperoxid forms. 4. Treat with an aqueous solution of sulphurous acid—1 to 2 seconds. 5. Wash thoroughly in distilled water. Nos. 3, 4 and 5 are repeated; at each repetition a shorter time is given to every individual step in the process until the sections are colorless. For cover-glass preparations water is used in place of alcohol after treating with gentian-violet, and the various st [illegible] [illegible]d. T[illegible] specimens are run through a[illegible] finally mounted in Canada balsam. It was observed that smegma bacilli stain readily by this method. For decolorizing the micro-organisms, Edward Welander has recommended the use of oxalic instead of sulphurous acid in this process, for both syphilis and smegma bacilli.

De Giacomi devised a means of staining the syphilis bacillus, which, for cover-glass preparations, consists of the following steps: 1. Stain in hot anilin-water-fuchsin solution for several minutes. 2. Immerse first in a weak, then in a strong, solution of ferric chlorid. 3. Wash in water and pass through the usual reagents for dehydrating and clearing. The syphilis bacilli are stained red. This method, like that of Lustgarten, is applicable to the bacilli of smegma, and does not constitute a differential stain.

In 1887, J. Marcuse, under the guidance of Neisser in Breslau, conducted a series of very careful experiments in the hope of proving or disproving the identity of the syphilis and smegma bacillus, and of ascertaining the effect of each on the animal body, but without success. In spite of the most painstaking efforts he failed to prove that Lustgarten's bacillus is the specific cause of syphilis, and a similar lack of success marked his attempts to cultivate both varieties of organisms. In the same year Doutrelepont and Schütz published a new method of staining the bacillus of syphilis. They employed an aqueous solution of gentian-violet to impart color to their specimens; decolorized them in nitric acid—1.15—then in 60 per cent. alcohol and finally in absolute alcohol. Two years later, Joseph Lewy found that Doutrelepont's method left smegma bacilli unstained, and published the following tabulated differences between the two varieties of micro-organisms:

SYPHILIS BACILLI.	SMEGMA BACILLI.
Found in secretions of syphilitic lesions and in syphilitic tissues of all three stages of the disease.	Found in smegma praeputii penis et clitoridis, between labia majora and minora, in grooves of groin, and about the anus.
Generally lie on the epithelial cells, although they may sometimes occur free. Are rarely present in large numbers.	Lie on or about the epithelial cells, often in large numbers. Also occur abundantly outside the cells, the latter being few.
Are, as a rule, slender, straight or curved rods.	Appear generally as smaller, plumper rods. A greater diversity of form exists.
In staining, resist the action of alcohol for a considerable time.	Are more readily decolorized by alcohol.
Are decolorized by acids in 30 to 40 seconds.	May resist the action of acids for two minutes or longer.
Are decolorized by glacial acetic acid almost instantaneously.	May resist the action of glacial acetic acid for 25 seconds.
Are more numerous the more recent the infiltration.	Are more numerous the longer the secretion has accumulated.
Are stained well by Doutrelepont's method.	Are not stained by Doutrelepont's method.

The diagnostic value of a means of differentiation between smegma and syphilis bacilli is not a considerable one. If it is possible to find bacilli in gummatous lesions of internal organs it may be safely assumed that they are not those of smegma, for it would be difficult to understand how a penetration of smegma bacilli into the interior of syphilitic foci could occur. As regards the presence of bacilli in cutaneous ulcers, a differentiation is often a difficult task, but the diagnosis of syphilis is by no means dependent on a demonstration of the presence of Lustgarten's bacilli in the eruption. Not so with tuberculosis. That the necessity for a means of differentiation between the tubercle and smegma bacillus may become an urgent one is apparent from the fact that a diagnosis of tuberculosis of the urinary tract is often dependent on the discovery of the bacilli in the urine. If the question of the advisability of resorting to operative measures on the urinary organs is to be settled by a demonstration of the presence of tubercle bacilli in, or of their absence from, the urine, it becomes self-evident that every possible source of error must be eliminated. The smegma bacillus has been mistaken for the tubercle bacillus a number of times, and unnecessary surgical operations performed on the strength of microscopic findings. Numerous attempts have been made to discover a useful method of differentiation, but of the many processes that have been recommended and tried, most have been abandoned.

It was known that the bacillus of smegma is more sensitive to acids than the tubercle bacillus, and on this fact were based many of the earlier differential stains, but it remained for Grethe to show, in 1896, the unreliability of these methods and to prove that the difference in sensitiveness to acids between the two bacilli is an exceedingly slight one. At the same time he recommended a new process to distinguish the tubercle from the smegma bacillus, in which acids are entirely dispensed with. This method is based on the property possessed by the smegma bacillus of being attacked by alcohol with greater ease than is the bacillus of tuberculosis, and consequently after the cover-glass preparations have been treated with hot carbol-fuchsin and washed in water, Grethe transfers them to a saturated alcoholic solution of methylene blue. The bacillus of tuberculosis treated according to this method retains the red color, while the smegma bacillus is stained blue. Instead of the saturated alcoholic solution of methylene blue, Czaplewski's alcoholic fluoresceïn-methylene blue may be employed as an after-stain and means of differentiation. That this method was not universally satisfactory is indicated by the fact that within a short time after the appearance of Grethe's publication Bunge and Trantenroth reported occasional failures. These two observers, moreover, pointed out that the peculiarities manifested by the smegma bacillus in the process of decolorization, which were attributed by Gottstein, Matterstock, Bienstock and others to a coating of fat surrounding each organism, could not be due to that cause, for the reason that these peculiar properties manifest themselves even after the bacilli have been treated with chloroform or ether, and because the same properties are not displayed by the numerous other bacteria occurring in smegma. Although failing to state a reason for the belief, they expressed their inclination to look on the fatty acids as the real cause of the peculiar staining qualities of the organism, presuming that these acids are taken up and assimilated by the protoplasm of the bacillus. Czaplewski called attention to the fact that as these peculiarities persist even when the organism is cultivated on media free from fat, it necessarily follows that they are dependent on the peculiar nature of the substance of the bacillus itself.

For differential purposes Bunge and Trantenroth recommended the following procedure: The cover-glass preparations, without having been previously fixed in the flame, are immersed in absolute alcohol or in a mixture of alcohol and ether for a period of time varying from several to twenty-four hours. It is claimed that by this means the organisms lose their resistance to decolorizing agents to such an extent that after having been stained with carbol-fuchsin, and having remained for 1 to 2 minutes in dilute sulphurous acid, an aqueous solution of methylene blue will, in the overwhelming majority of cases, succeed in imparting its color to the bacilli. Tubercle bacilli, after this treatment, still remain intensely red.

Finally, the same observers disclosed another process, which is, according to their statements, absolutely reliable in every case, and consists of these stages: 1.

Place cover-glass preparations, without previous heating, into absolute alcohol for three hours. 2. Treat with a 3 per cent. chromium solution for fifteen minutes. 3. Stain with carbol-fuchsin. 4. Treat with dilute sulphurous acid for two to three minutes. 5. Treat with concentrated alcoholic solution of methylene blue for five minutes. Tubercle bacilli retain the red, smegma bacilli assume the blue color.

In order to test the method of Bunge and Trantenroth the author prepared a series of slides, and applied the process last described. One hundred and seventy-three specimens of tubercle bacilli were stained in this manner. The bacilli were obtained from sputum twenty-two times, and in the remaining 151 cases from pure cultures. The organisms appeared red without exception. Sixty-three cover-glass preparations of smegma bacilli invariably displayed the organisms stained blue. These smegma bacilli were derived from every available source, but the locality of the growth had, in these cases, no influence on the tinctorial qualities of the micro-organisms.

Perhaps the most valuable practical result of the work of Bunge and Trantenroth was the furnishing of the experimental proof that after thoroughly cleansing the orificium externum urethræ, the urine which is withdrawn by means of a clean catheter is constantly free from smegma bacilli.

Laser contends that cultivation of the smegma bacillus is the most reliable method of differentiating it from those bacilli which are morphologically so deceivingly similar to it. He was able to obtain growths of smegma bacilli in twenty-four hours from urinary sediment, while tubercle bacilli required for their development a period of time varying from ten to fourteen days.

Czaplewski found smegma bacilli in sputum, and recently Fraenkel and Pappenheim also reported the occurrence of this organism in expectorations from the lungs. Fraenkel observed the bacillus in the putrid sputum from a case of pulmonary gangrene. If Gabbet's method be employed, he cautions the microscopist to look with suspicion on organisms resembling tubercle bacilli when they occur in sputum rich in myelin and fatty acids. Fraenkel believes Honsell's method to be of utility in differentiating, but he takes care to add that no positive diagnosis can be made without resorting to inoculation of animals. In Honsell's process the bacilli are first stained with carbol-fuchsin, then treated for ten minutes with 3 per cent. hydrochloric acid in absolute alcohol, and finally counterstained with a moderately strong alcoholic solution of methylene blue. Tubercle bacilli are not decolorized.

In Pappenheim's case Gabbet's method revealed numerous red bacilli in the sputum, and a clinical diagnosis of pulmonary tuberculosis was made. In addition to this, the patient was supposed to be afflicted with intestinal tuberculosis. The autopsy disclosed the existence of chronic bronchitis, bronchiectasis, double ascending bronchopneumonia, a small gangrenous pulmonary abscess, and diphtheritic and follicular enteritis of the ileum, colon and rectum. All traces of tuberculosis were absent.

Efforts made by the writer to discover a ready means of differentiation between smegma and tubercle bacilli by staining with osmic acid together with various anilin dyes, before and after treating for diverse lengths of time with chloroform and ether, were not productive of successful results.

Dr. Marion Dorset[2] has called attention to the results obtained in his work with Sudan iii as a selective stain for the tubercle bacillus. Cover-glass preparations fixed in the usual way were immersed for five minutes in a cold 80 per cent. solution of Sudan iii in alcohol. Subsequent thorough washing for five minutes in 70 per cent. alcohol removed the excess of the stain. Dorset found that while this process imparted to the tubercle bacillus a bright red color, it did not stain a variety of other micro-organisms with which he experimented. Among these organisms was the smegma bacillus.

The writer's own experiments with this process have been confined exclusively to tubercle and smegma bacilli. The latter invariably failed to take the stain; tubercle bacilli always appeared red after its application. Methylene blue was used as a counter-stain.

While the total amount of experimental work performed with Dorset's method is perhaps still too small to warrant the assertion that the process is always trustworthy, yet further experimentation will probably prove that such is the case. As far as the reliability of its results is concerned, it is at least the equal of the method of Bunge and Trantenroth, and in the readiness and rapidity with which it can be carried out is far superior to the process devised by the German investigators.

Attention to the following facts may frequently be of service in attempts at differential staining: 1. Smegma bacilli do not occur in internal lesions. 2. Lustgarten's bacilli are not known to have ever occurred in sputum,[3] although if syphilitic lesions exist in the respiratory passages or mouth and these lesions contain Lustgarten's bacilli, it must be admitted that the mixture of the latter with the sputum is not impossible. 3. As first stated by Fraenkel, sputum containing a large proportion of myelin and fatty acids is apt to contain smegma bacilli, but these are not usually numerous. Regarding other varieties of sputum the writer has found: *a*, that the presence of smegma bacilli is exceedingly uncommon; *b*, that the possibility of finding smegma bacilli can be reduced to a minimum by a thorough brushing of the teeth, washing out of the mouth, and gargling of the throat, preferably with a solution containing a small amount of alcohol or sodium bicarbonate, previous to the expectoration of the sputum to be examined. In fact, it may be regarded as doubtful whether smegma bacilli ever occur under these circumstances in sputum which does not possess the characteristics mentioned by Fraenkel. 4. Smegma bacilli do not occur in urine obtained by catheterization after thoroughly cleansing the urethral orifice. 5. In the hundreds of preparations examined by the author, it was never possible to find a single smegma bacillus showing in a typical way the peculiar sharp curve near one extremity which is so frequently observed in tubercle bacilli.

With the increase of our knowledge regarding the peculiarities of growth of the smegma bacillus, the recent valuable improvements in staining methods, and the non-pathogenic character of the organism placed beyond reasonable doubt, it can not but rapidly lose the prominent position it has held in the field of bacteriologic diagnosis.

ADDENDA.

History.—It may be mentioned that Zahn, in 1882, first described the occurrence in sputum of rod-shaped organisms, resembling the bacilli of tuberculosis. He was able to prove the non-identity of these organisms and tubercle bacilli. The existence of similar forms in smegma had not at that time been revealed.

---

[2] A New Stain for the Bacillus Tuberculosis. N. Y. Med. Jour., Feb. 4, 1899.

[3] Kamen (Internal Klin. Rundschau, 1889, 1, 10, 13) claims to have found syphilis bacilli in the sputum of a boy 9 years of age, afflicted with hereditary syphilis.

Staining.—A more extensive experience with Dorset's Sudan iii has shown that as far as its inability to give color to smegma bacilli is concerned it has borne out the truth of the statements previously made as to its general reliability as a differential stain. It occasionally happens, however, even when Dorset's directions are faithfully carried out, that tubercle bacilli are but faintly tinted by the dye; so faintly, in fact, that the possibility of overlooking individual bacilli because of the lack of sufficient color can not be entirely excluded.

Significance of Smegma Bacillus in Diagnosis of Tuberculosis.—A. Dietrich has recently described an interesting case in which the symptoms, and the detection of what appeared to be tubercle bacilli led to the clinical diagnosis of peritoneal tuberculosis. The autopsy, performed by v. Baumgarten, disclosed the existence of a purulent ovarian cyst communicating by means of a fistulous tract with the lumen of the rectum. No macroscopic nor microscopic tubercular lesions could be found. The bacilli which had been regarded as those of tuberculosis could still be obtained from the cyst contents, but careful examination showed them to be slightly longer than the average tubercle bacilli, and not constantly characteristically grouped. Injections of these microorganisms into guinea-pigs did not result in the production of tubercular changes. Cultivation experiments were unsuccessful.

It is interesting to note that an early examination of the fluid obtained by exploratory puncture, before any conclusions regarding the diagnosis of the case had been reached, revealed pus microbes, but no bacilli. Some time after purulent intestinal discharges had indicated the occurrence of perforation these rod-shaped organisms began to make their appearance.

The bacilli were probably those of smegma, which, as Dietrich himself suggests, may have gained entrance, *per intestinam,* from the anal region, and finding in the degenerating contents of the cyst a favorable medium for development, multiplied to considerable numbers.

The possibility of the fact that the exploring finger may have been responsible for the introduction of the bacilli into the rectum is mentioned by Dietrich.

BIBLIOGRAPHY.

Despite the somewhat lengthy list of bibliographic references here appended, an extensive literature on the subject of the smegma bacillus does not exist. The majority of the works mentioned do no more than briefly refer to the chief peculiarities of the bacillus.

Abbott, A. C.: The Principles of Bacteriology. 4th ed., Phila., 1897.

Alverez et Tavel: "Recherches sur le bacille de Lustgarten;" Archiv de Physiol. norm. et d'Anat. pathol., No. 7, 1885.

Ball, M V.: Essentials of Bacteriology, 2d ed., Phila., 1894.

Bienstock: "Zur Frage der sog. Syphilisbacillen und Smegmabacillenfärbung:" Fortschr. d. Med., No. 6, 1886.

Birch-Hirschfeld, F. V.: Lehrb. d. Allgem. Pathol. Anat., 3te Aufl., Leipzig, 1886.

Bitter: Virchow's Archiv., Bd. ciii, H. 2, p. 209, 1886.

Bunge, R. u. Trantenroth, A.: "Smegma u. Tuberkelbacillen;" Fortschd. d. Med., Nos. 23 u. 24, 1896.

Cornil: Académie de Medicine, 1885.

Crookshank, E. M.: A Text-Book of Bacteriology, 4th ed., Phila., 1897.

Czaplewski: "Nachweis im Sputum;" Centralbl., viii., 1890.

Czaplewski, C.: "Zur Kenntniss der Smegmabacillen," Münchener Med. Woch., No. 43, 1897.

Doutrelepont: "Ueber die Bacillen bei Syphilis;" Vierterjahrschr. f. Dermatol. u. Syph., 1887.

Fordyce, J. A.: Bacillenbefund bei Syphilis: Inaug. Diss., Berlin, 1888.

Fraenkel, C.: Grundriss d. Bakterienkunde, 3te Aufl., Berlin, 1890.

Fraenkel u. Pfeiffer: Atlas d. Bakterienk.. Berlin, 1892.

Fraenkel, A.: "Einige Bemerkungen Ueber d. Vorkommen von Smegmabacillen in Sputum; Berlin Klin. Woch., No. 40, p. 880, 1898.

Friedlander, C.: Mikrosk. Technik. 4te Aufl., Berlin, 1889.

Fülles, H.: Ueber Micro-organismen bei Syphilis; Inaug. Diss., Bonn, 1887.

Gottstein: "Die Beeinflussung des Färbungsverhaltens von Mikro-organismen durch Fette;" Fortschr. d. Med., No. 8, 1886.

Grethe: "Smegma u. Tuberkelbacillen;" Fortschr. d. Med., No. 9, 1896.

Grünbaum, Albert S.: "Note on the smegma bacillus: its diagnostic importance and its cultivation," The Lancet, Jan. 9, 1897.

Grünbaum: "Zur Frage der Zuechtung der Smegmabacillen;" Münch. Med. Woch., xliv., 1897.

Günther, C.: Einfuehrung in das Studium der Bakteriologie; 2te Aufl., Leipzig, 1891.

Heim, Ludwig: Lehrb. d. Bakt. Untersuchung u. Diagnostik, Stuttgart, 1894.

Israel, O.: Practicum d. pathol. Histol., Berlin, 1889.

Jaksch, R. v.: Klin. Diag. inn. Krankh. mittels bakt., chem. u. mikrosk. Untersuchungsmeth., Wien u. Leipzig, 1889.

Kaposi, M.: Pathol. u. Therap. d. Syphilis: Stuttgart, 1891.

Klemperer: "Ueber Syphilis u. Smegmabacillen;" Deutsche Med. Woch., 77, 1885.

Laser, H.: "Ueber Reinkulturen von Smegmabacillen;" Münch. Med. Woch., No. 43, 1897.

Ledoux-Lebard: "Developpement et structure des colonies du bacille tuberculeux;" Arch. de Medicine Experimentale et d'Anat. pathol.; Tome x, No. 3, 1898.

Lehmann, K. B.: Die Methoden d. prakt. Hygiene, Wiesbaden, 1890.

Lesser, E.: Lehrbuch d. Haut u. Geschlechts Krankheiten, Leipzig, 1885.

Lewy, Jos.: "Ueber Syphilis u. Smegmabacillen;" Inaug. Diss., Bonn, 1889; Centralbl. für Bakt. u. Paras., No. 19, 1889.

Marcuse, Jul.: "Die Syphilis u. Smegmabacillen;" Diss., Würzburg, 1888.

Matterstock: Sitzungsb. d. Würzb. phys.-medic. Gesellsch., vom 6ten Juni, 1885.

McFarland, Jos.: A Text-Book on the Pathogenic Bacteria, 2d ed., Phila., 1898.

Miller, J. L.: "The Smegma Bacillus;" THE JOURNAL, June 4, 1898.

Orth. Joh.: Compendium d. path.-anat. Diagnostik, 4te Aufl., Berlin, 1888.

Pappenheim, A.: "Befund von Smegmabacillen im menschlichen Lungenauswurf:" Berlin Klin. Woch., No. 39, p. 809, 1898.

Senn, N.: Surgical Bacteriology, 2d ed., Phila, 1891.

Smirnow: Ueber die Micro-organismen der Syphilis; Dissert., Kasan, 1888.

Sternberg, George M.: A Manual of Bacteriology, New York, 1892.

Tavel: "Zur Geschichte der Smegmabacillen;" Centralbl. für Bakteriol. u. Paras., B. i., No. 23.

Weichselbaum, A.: Grundr. d. pathol. Histol.; Wien u. Leipzig, 1892.

Welander, E.: "Om Färgning af Tuberkelbaciller," Hygiea 1887.

Ziegler, E.: General Pathology; Transl. from 8th German ed., New York, 1897.

Zuelzer, u. Oberlander,: Klin. Handb. d. Harn u. Sexualorgane, Leipzig, 1894.

Zahn: Dissertat, Tübingen, 1882.

Dietrich, A.:"Säurefeste Bacillen in einer vereiterten Ovarialcyste:" Berlin. Klin. Woch., 1899, No. 9.

Honsell: "Ueber Differentia diagnose swischen Tuberkelbacillen u. den Bacillen des Smegmas;" Arbeiten a. d. path. anat. Institut in Tübingen. Bd. ii, p. 317, 1898.

CLINICAL REPORT.

DOUBLE INGUINAL HERNIA UPON THE SAME SIDE: ILLUSTRATION.

BY CHAS. C. ALLISON, M.D.

OMAHA, NEB.

In his excellent monograph on the anatomy and pathology of the rarer forms of hernia, Moynihan[1] very accurately defines the different types of bilocular hernia. The essential feature of both the properitoneal and the interstitial protrusions is that the loculi have a common neck, osteum abdominale. In the properitoneal the inner loculus lies between the serosa and the fascia transversalis, the outer usually occupying the ring or canal, while in the interstitial the upper loculus may be inter- or extra-parietal, and the lower in the inguinal canal, the loculi having a common outlet to the abdominal cavity.

The presence of two distinct hernial sacs, the one opening into the abdomen at the internal ring, the other having a distinct neck at the external ring, that is to say, the presence of both the direct and the indirect forms in a hernia on the same side is, so far as I am able to learn, a hitherto undescribed hernial anomaly.

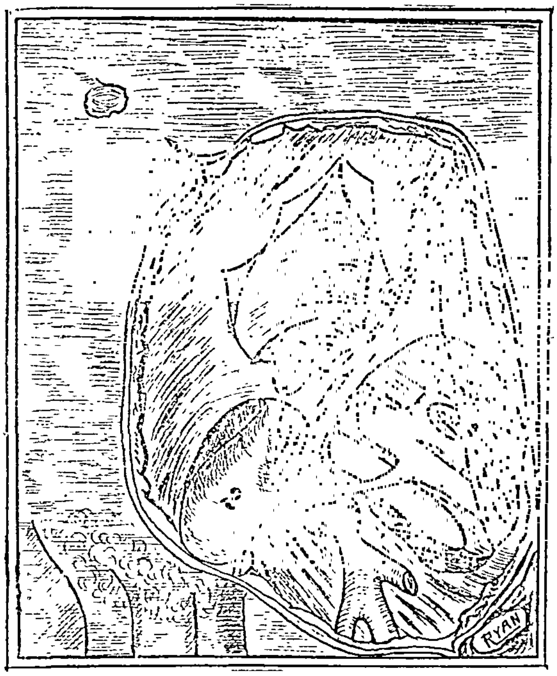
The case which I will describe was a male, 56 years of age, operated on Feb. 3, 1900. The hernial protrusion was oblong in shape and extended into the upper portion of the scrotum. It was reducible and its reduction revealed a very marked attenuation of the abdominal muscles over the inguinal region.

A high incision of the external oblique aponeurosis revealed a sac (Fig. 1) conical in shape and easily separable from the underlying tissues (cord). Its isolation was accomplished, the sac excised and sutured well up within the limits of the internal ring. It was then found that the larger part of the hernial protrusion (Fig. 2) remained in the shape of a direct inguinal hernia which passed into the upper portion of the scrotum. The contents of this sac was omentum and bowel, after the replacement of which the sac was also excised, its neck closed by suture high up within the borders of the external ring, after which a transplantation of the cord was done after the Bassini method, additional support to the external ring being attained by a transplantation of a portion of the rectus muscle after the method described by Bloodgood. No complications were met with during convalescence, and the abdominal wall seemed to offer good resistance to internal pressure.

---

[1] The Lancet, February 24.

While it is true that the causes which operate in the production of hernia usually develop a single hernia, although it may be bilocular, there is no reason why two distinct sacs may not develop, yet practically such cases are extremely rare. I have outlined the different types of interstitial hernia for the purpose of making a differentiation more certain in case any abnormal condition is found in the relation of the sacs to the surrounding tissues.



The Bassini operation, with slight modifications to suit the exigencies of the case, has been employed by me for a number of years, but there is one step in particular quite generally followed by the writers on this subject, from which it has been my custom to depart, and that is a high suture of the neck of the sac as opposed to its ligation. The advantages of this surgical apposition of the peritoneal edges over their strangulation by the ligature will be, I think, apparent.

15th and Douglas Streets.

A PARIS omnibus was upset last May and a medical student had his skull fractured. The driver and the company were held responsible and Dr. Laugier testified that the injury to the skull had evidently caused a mental weakness although there was no wound apparent at this date. The court awarded the student $5000, reserving the right to resume the case if his condition became aggravated.

SPECIAL ARTICLE.

RELATIONS OF PHARMACY TO THE MEDICAL PROFESSION.*

II.

Following the preliminary observation on proprietary medicines, in THE JOURNAL of last week (pp. 986-988), the various classes will be taken up and considered in their respective relations to medical and pharmacal practice. They may be divided as follows:

1. "Patent medicines"—medicinal articles of secret composition advertised directly to the laity, the proprietary right consisting in a copyrighted label and in an arbitrary trade-mark or title.
2. "Patent medicines" as above, being also protected by patent.
3. Dietetic preparations, including infants' and invalids' foods, malt and alcoholic liquids, mineral waters, meat products and restoratives.
4. External antiseptics, disinfectants and deodorants, the formulas or general composition known, usually protected by trade-mark or copyrighted names.
5. Proprietary pharmaceuticals—preparations of secret composition protected by trade-mark or copyrighted names, offered for medical prescription.
6. Proprietary pharmaceuticals—preparations under trademark or copyrighted names, of which the general constituents are known, the purported formulas being represented by enumeration of the ingredients, more or less intelligibly, without information as to how a similar preparation could be produced.
7. Pharmaceutical specialties—mixtures, preparations of well-known composition, formulas and full information published. They comprise: *a*, those offered under a descriptive title, protected, if at all, only through the copyrighted label, but not through the name of the preparation itself; *b*, those protected by trade-marked or copyrighted names.
8. Pharmaceutical specialties—simples, preparations of well-known composition, usually made by some special process or from crude material of certain character, the process sometimes being patented. These may be offered: *a*, under descriptive titles without any protection, or *b*, be designated by protected names.
9. Chemicals—substances of definite chemical composition, not mixtures merely, made by patented process and protected by trade-marked or copyrighted names, sometimes the product also being patented.
10. Chemicals and products made by patented processes.
11. Instruments and surgical apparatus protected by patent on mechanical devices.

PATENT MEDICINES.

It should be remembered that the so-called "patent medicines" are not patented for the all-sufficient reason that, in order to comply with the requirements of the patent laws, the composition would have to be divulged, to which the originator or rather "appropriator" would never consent, since it would disclose the fact that there was neither originality nor virtue in the alleged discovery. On the contrary, secrecy of composition is the *vis medicatrix* of all "patent medicines," since this admits of the most mendacious misrepresentation to bolster up their alleged virtues and puff them to a credulous public. The two first generally known medicines of this class, "Ayer's" and "Jayne's Family Medicines," were, however, exceptions, since formulas purporting to give the composition were furnished to medical men when they were first sold, some fifty years ago. Considering that the "pectoral" was alleged to contain morphin, such publicity was rather to be commended; but, on the other hand, the purported presence of iodid of iron in one of the preparations, consisting of an extract of a number of drugs, which would form "ink" with ferrous iodid, suggests that even the pioneer patent medicine men recognized the value of complicated formulas and their potency in preserving for them a monopoly in their offspring.

---

* The second of a series of articles to appear weekly in THE JOURNAL designed to correct the abuses from advertising and patronizing pharmaceutical specialties.

The history of some of the most celebrated "patent medicines" even during the past quarter of a century almost rivals the charlatanism of the Middle Ages. Who does not remember "Condurango," backed by the "Bliss Syndicate" and exploited by the leading statesman at Washington, because it "cured" the mother-in-law of Schuyler Colfax of cancer, and the subsequent discovery that the wonderful remedy was a bark without any especial therapeutic effect? "Kaskine" was launched as the most wonderful discovery of the age, a substitute for quinin, without disagreeable taste or after-effects, recommended through a testimonial from one of the celebrated medical teachers of New York—the long-sought desideratum, the realization of the dreams of the world's most famous chemists, rivaling the philosopher's stone. It proved, on analysis by Dr. Hoffmann, to be 20 grams of granulated sugar, selling for one dollar!

Then there was the "Sweet Corassa Compound," or the celebrated "Bible House Prescription," furnished gratis to sufferers by the Rev. Jos. T. Inman of New York. An old postal station in New York was located in an old building known as the "Bible House," and here the reverend Inman, who represented himself to be a retired missionary, received his letters. To the victim would be sent a prescription impossible of compounding, and shortly afterward he would be advised that the mixture could be had on receipt of $3.50, bare cost of the ingredients—about four ounces of gentian and similar vegetable powders. The Halish Sativa Prescription was operated on the same plan, by Noyes, in Rochester, N. Y., celebrated as the home of many similar enterprises, including the "Safe" remedies introduced by Safe-Warner, whose kidneys having been rejuvenated by an infusion of hepatica and saltpeter, felt compelled to force this discovery as a boon on suffering humanity. After exhausting the renal possibilities of the American public, Warner went to London and succeeded in floating a half million dollars in shares on the unsophisticated Britishers only to finally meet with reverses and defeat.

PATENT MEDICINES—PATENTED PROCESS.

Since secret composition is the chief element of the patent medicines, obviously, securing protection through patent of the process with its attendant publicity and limitations would never be thought of. Yet there are exceptions, notably in the case of the most successful of the present-day medicines.

Castoria.—The formula[1] of the preparation of a syrup of senna, with aromatics and alkaline salts together with a process for the extraction of the senna with hot water containing a little sodium bicarbonate, was patented by one Dr. Samuel Pitcher, some thirty years ago, under the name of "Castoria." The name and the label were copyrighted. The patent on the process having expired by limitation some years ago, it was discovered that the name also reverted, along with the process, to public use, and various parties began the manufacture of castoria. The owners of the original patent began legal proceedings against the infringers and succeeded in all but one instance in prohibiting any one from making castoria or vending any article under that name except that made by them. In one instance the case was carried to the United States Supreme Court, which, in an opinion written by Justice Brewer, held that the patent on the process having expired, the name "Castoria," being the only name to designate the article, became a common name and therefore free for use. The design, style and signature of the package being copyrighted can not be imitated, hence the tremendous effort on the part of the original manufacturers to familiarize the public with the signature of a person who manages the business for the present owners—who by the way married into the family. As for Dr. Pitcher, who was the original owner, he was at last accounts struggling along in Hyannis, Mass., apparently content with an occasional crumb from the table of the New York Dives, who has made millions out of his "discovery," and yet the extraction of senna with a weak alkali to furnish with correctives a preparation which will be active but not possess griping qualities, was practiced long before Dr. Pitcher appeared on the stage.

Syrup of Figs.—A preparation quite similar to "Castoria" and rivaling the latter in popularity is "Syrup of Figs." While the name is registered as a trade-mark, it is an open secret that the preparation is a syrup of senna containing some fig juice and aromatics. Although designed for domestic use, this article has been extensively advertised in medical journals and no secret made of the fact that the fanciful name, "Syrup of Figs," was given to the preparation to distinguish it from all other laxatives and also from the fact that it contained a small quantity of the juice, or soluble substance, of figs, together with aromatic carminatives, white sugar and water. In order to satisfy the medical profession and guarantee the excellence of its product, the manufacturer gives the component parts of each teaspoonful as: solution of active principles of senna, 15 minims; aromatic syrup of figs, 3 minims; white sugar, 24 grains; water 18 minims, the above representing 15 grains of senna.

This combination, except for the figs, is substantially that of the official syrup of senna, being of the same strength. There is a discrepancy in the formula, however, which would be of little consequence but for the apparently exact mannner of stating the quantities in a teaspoonful. While the figures of the above quantities added together make 60 grains, without taking the slight specific gravity variation of the liquids into consideration, the syrup resulting from the solution of the sugar will not measure more than 50 minims, instead of 60 minims, or a teaspoonful. Of course, the idea intended to be conveyed by the formula was, that to the liquid extract of senna and aromatic syrup of figs sufficient sugar and water were added to make 60 minims, or one fluid dram. The fact that the 24 grains of sugar when in solution loses nearly one-half its volume seems to have been lost sight of by the chemist who furnished the formula—a trifling error and no doubt unintentional, but this formula is an illustration of how formulas are frequently carelessly thrown together for advertising purposes. This often happens through the ignorance of the advertisers themselves, and often through design, immunity from discovery being relied on through the indifference or unfamiliarity with the subject by the medical readers.

Several years ago an injunction was sought against a manufacturer of so-called non-secret medicines for infringing on the trade-mark, "Syrup of Figs." The case was strongly contested and, when it was proven, and also admitted by the plaintiff, that the article sold under the name of "Syrup of Figs" was really a syrup of senna, the injunction was denied, the court practically deciding that the law could not be invoked to protect any person in the use of a name which was admittedly false, as applied to the character and origin of an article, and that no relief could be afforded "without coming into court with clean hands." From several published formulas, and also practically by the admission of the manufacturers, "Syrup of Figs" owes its value to the use of deresinized senna, which prevents the griping effects attendant on preparations of senna not so treated. The idea is an old one, originating with the late Dr. Hermann Hager, who published a formula for extracting the resin from senna by alcohol. On evaporation of the alcohol the glucosids to which the cathartic action is due are then extracted with water. It has since been observed that the same object is accomplished by extraction of the senna with warm—not hot—water and precipitation of the gummy and other inert matter by the addition of 20 per cent. alcohol; in the clear liquid, on separation of the precipitate, the sugar is dissolved, without heat and aromatics added. This is the official process for syrup of senna, which is 25 per cent. drug-strength, the aromatic being oil of coriander. When made in this manner from Alexandria senna—not "siftings"—there is no better preparation of senna. The syrup of senna should not be made by mixing the fluid extract of senna with syrup simply, since the fluid extract, being made with dilute alcohol, contains the resin to which the objectionable griping qualities of senna are due.

DIETETIC PREPARATIONS.

In this group are included all preparations or products used as refined foods. Since it is sometimes impracticable to differentiate between a food and a medicine in its broad sense, it is somewhat difficult to draw the line sharply between these substances. These products are usually designated by a trademark or copyrighted name. They are rarely protected by process patent. In view of the intermediate position they occupy, the ordinary rules of ethics can not be strictly applied to them and should be largely modified. They are mostly obtained on the recommendation of physicians, often with fair knowledge on the part of the patient as to what they are or what the general composition is.

---

[1] The formula, according to the patent, is as follows: To 135 pounds of senna leaves add 35 gallons of water at 65 C., in which has been dissolved 48 ounces of sodium bicarbonate. Exhaust the senna by percolation until 240 pounds are obtained. In this dissolve 210 pounds of sugar, and four ounces of Rochelle salts, then add spirits of gaultheria, 18 pints, spirits of pepo, spirits chenopodium, spirits of menth. piper., spirits of anise, of each two ounces.

The name usually indicates the general composition of the article, but not always. If coined names are to be employed, they should indicate the origin or composition of the article rather than be derived from therapeutic uses or effects. A descriptive name in conformity with scientific nomenclature should be associated with the trade-name as a synonym. Preference should be given, by physicians, to such of these articles as conform to these reasonable requirements.

There is one general requirement which should be strictly adhered to, viz., when any article of this character is exploited to the laity as a remedy or cure for any complaint or ailment, medical patronage should be at once withdrawn. Instances are numerous where, for example, a lithia water has met with great favor of medical men, who have been unstinted in their testimonials and thus given the water standing and reputation. No sooner was this established than the owners began to exploit the water to the laity in public prints, often with the most hideous "before and after taking" illustrations. Many of the so-called malt extracts (alcoholic) have a similar history. The first domestic brand of malt extract was designated as a "Tonic" and, after its enterprising proprietor had spent a large fortune in introducing it to the medical profession and the drug trade, he was surprised that it was not better appreciated, not realizing that an up-to-date physician could not afford to prescribe his tonic, no matter "how famous the town" in which it was made. The result was that the article degenerated into a common beverage and, as such, found its level in the buffet. The rule then should be, emphatically; these articles may be patronized, provided their composition is known and they are not exploited as therapeutic agents.

Therapeutics.

In Gouty Subjects.

℞. Extracti colchici radicis....................gr. iv

Ft. pil. No. xii. Sig. One or two three times daily. Spirits of camphor locally. —*Brocq.*

During the formative period, give tar water to drink, and:

℞. Sulphuris sublim........................gr. iss
Pulv. camphoræ..........................gr. i
M. For one capsule. Sig. Three such to be taken daily. —*Robin.*

℞. Sodii sulphatis
Sodii bicarbonatis
Potassii sulphatis
Acidi tartarici
Mucilag acaciæ āā..................ʒiiss 10|
M. Sig. From ten grains to a dram daily in divided doses, in a wineglassful of water or milk.

℞. Sodii arsenitis............................gr. i
Syrupi simplicis ....℥i
Aquæ q. s. ad................................℥iv
M. Sig. Teaspoonful in water twice a day.

FOR COMPRESS.

℞. Chloroformi ....ʒviiss 30|
Essence caryophyl..............ʒi¼-iiss 5-10|
Beechwood creosote ....gr. xv-xxx 1- 2|
Camphorated oil..................ʒxiiss 50|
—*Gourine.*

Apply carbolic acid to the central point.

℞. Ichthyol ....ʒi
Emplast. plumbi..............................ʒii
Emplast. resinæ ....ʒi
M. Sig. As a plaster. —*Stelwagon.*

℞. Acidi salicylici............................ʒiiss
Emplast. saponis..............................℥iss
Emplast. diachyli..............................℥i
M. Sig. Spread and apply.

Insomnia.

The following methods of treatment of this condition are quoted from "The Practitioners' Manual."

WHEN PAIN IS NOT AN ELEMENT.

℞. Chloral ....gr. xx
Ammonii bromidi.......................gr. xx
Extracti nucis vom. fluidi..............gtt. x
Ext. belladonnæ fluidi..................gtt. ii
M. Sig. To be taken at once and repeated in an hour or two if needed. —*Adolphus.*

IN NERVOUS INSOMNIA.

℞. Croton chloral |
Tinct. zingiberis āā................ʒiiss 10|
Aquæ menthæ pip..............ʒxxxviiss 150|
M. Sig. A dessertspoonful at night. —*Boas.*

FROM OVEREXCITEMENT, WITH MOTOR RESTLESSNESS.

℞. Sulfonal
Ext. conii fluidi āā..........................ʒi
M. et. disp. in caps. No. xv. Sig. One capsule at 6, 8, and 10 p. m.

FOLLOWING ALCOHOLIC EXCESS.

℞. Chloral
Potass. bromidi āā ....℥iv
Extr. cannabis indicæ
Ext. hyoscyami āā...................... gr. xvi
Chloroformi ....ʒii
Aquæ bullientis q. s. ad......................Oii
M. Dissolve the extract of cannabis indica in the chloroform and add the chloral. Pour the boiling water on this and add the bromid and the hyoscyamus. When cold, filter. Dose: Dessertspoonful to a tablespoonful. —*E. C. Hooved.*

℞. Amylene hydrate P. G. ....gr. xc
Morphinæ hydrochloratis..................gr. ¼
Extract of licorice..........................ʒiiss
Aquæ dest....................................ʒxxv
M. Sig. Half on retiring.

℞. Amylene hydrate..........................gr. lx
Morphinæ hydrochloratis..................gr. ¼
Mucilag. acaciæ..............................ʒvi
Aquæ ....ʒxiiss
M. Sig. As an enema. —*Fischer.*

℞. Paraldehyde ....ʒii
Glycerin ....℥ss
Syrupi ....℥i
Spt. etheris nitrosi..........................ʒx
Olei anisi ....gtt. xx
M. Sig. Tablespoonful every half hour until sleep, or until six have been taken. —*A. A. Rawson.*

℞. Chloral ....gr. x
Sulphonal ....gr. x
Phenacetin ....gr. v
M. Sig. For one dose. —*Edwin Rayner.*

In the eruptive fevers in childhood, tuberculous meningitis, pernicious malaria with cerebral excitement trional, gr. vi-xv, in the twenty-four hours. Children show a particular tolerance and it is prompt in action. —*H. D. Chapin.*

In neurasthenia, strychnin and digitalis are often effective. —*C. K. Clarke.*

In overworked students, strychnin or hot coffee. Magnesium sulphate is an ancient but trusty ally. As a last resort, chloralamid, but without the patient knowing what drug he is taking. —*Donald MacAlister.*

In the insane, chloral is the surest sleep-producer. Paraldehyde at times acts well. Secure sufficient outdoor exercise and supply suitable diet. —*J. Y. M. Campbell.*

If the patient be gouty, sodium phosphate, sodium salicylate, piperazin, or uricedin. In kidney diseases with contracted blood-vessels, nitrites. In anemia, iron in organic preparation. —*R. W. Wilcox.*

To break a pernicious habit of sleeplessness, trional in initial dose of gr. xx-xxiv, subsequently reduced to gr. xv.
—*J. A. Browne.*

Treatment of Rachitis.

℞. Phosphori ....gr. 3/20 |01
Olei amygd. dulc................ʒviiss 30|
Pulv. sacch. alb.
Pulv. acaciæ, āā..........ʒiii+gr. xlv 15|
Aquæ dest.........................ʒx 40|
M. Sig. Teaspoonful at a dose.
R. Phosphori ....gr. 1/25
Olei olivæ (refined)........................ʒi
Sacch. alb.
Pulv. acaciac, āā..........................℥ss
Aquæ dest., q. s. ad........................℥ii
M. ft. emuls. Sig. Dose one teaspoonful.—*Mettenheimer.*
℞. Phosphori ....gr. 15/100
Ol. morrhuæ ....℥iii
Saccharin ....gr. lxxv
Ess. limonis............................gtt. ii
M. Sig. A small teaspoonful may be taken daily.—*Marfan.*

Iodo-phosphorated butter to be used as a substitute for cod liver oil in hot weather:

℞. Fresh butter..........................℥xviiss
Potassii iodidi.........................gr. iv
Potassii bromidi ....gr. xv
Sodii chloridi.............................ʒii
Phorphori ....gr. 1/7
M. Sig. About one-third of an ounce daily spread on bread.
—*Trosseau* (modified by Comby).

℞. Syr. calc. lactophosphat...........ʒxxv 100|
Ferri citro-ammon. pyrophosphat...gr. xv 1|
Aquæ dest., q. s. ut sol.
M. Sig. A dessertspoonful one to three times daily.
—*D'Espine and Picot.*

℞. Aquæ calcis
Syr. Calc. lactophosphat, āā... ....1 part
Olei morrhuæ........................2 parts
—*J. Lewis Smith.*

R. Phosphori ....gr. 3/20 |01
Olei morrhuæ..................ʒxxv 100|
M. Sig. Teaspoonful twice daily.
R. Phosphori ....gr. 3/20 |01
Dissolve in
Olei amygd. dulc...............ʒiiss 10|
Add
Pulv. acaciæ
Syr. simplicis, āā..................ʒi¼ 5|
Aquæ dest....................℥iiss 80|
M. Sig. One teaspoonful daily, below the age of 1 year; from the twelfth to the fifteenth month, two; and over 2 years of age, four teaspoonfuls. Each teaspoonful contains half a milligram of phosphorus.—*Kassowitz.*

℞. Syr. ferri iodidi...................gtt. iii-xxiv
Aquæ dest., q. s. ad........................℥iii
M. Sig. One teaspoonful every four or five hours.—*Hare.*
℞. Phosphori ....gr. i
Alcoholis absoluti...........................ʒv
Glycerini ....℥iss
Alcoholis ....ʒii
Spt. menthæ pip.......................m. xl

Dissolve the phosphorus in the absolute alcohol with the aid of a gentle heat; then add to it the glycerin, alcohol, and spirit of peppermint, previously mixed and slightly warmed. Each fluid dram contains nearly 1-20 gr. of phosphorus.
—*J. Ashburton Thompson.*

Puerperal Eclampsia.

Dr. G. Ernest Herman, in "Allbutt's System of Medicine," says:

I believe that much of the mortality of puerperal eclampsia comes from the pernicious maxim, "Deliver as quickly as possible." Eclampsia depends upon a disease of the kidney peculiar to pregnancy; and for its prevention I think that labor should be induced as soon as any considerable amount of albumin is found in the urine, and other treatment has not been effective. But when the acute disease—characterized by fits and urine solid with albumin—is established, the time for prevention has passed. The disease will run its course, and this course is not affected by delivery. Some cases end in recovery without delivery; others get worse after delivery. There is abundant evidence that delivery has no favorable effect on the disease. I speak of natural delivery. Forced delivery has many bad effects. Manipulations provoke fits. Dragging the child through an imperfectly dilated genital passage involves tearing of the parts. Pulling the child away when the uterus is not contracted surely leads to post-partum hemorrhage. Cesarean section has been proposed; and the hastening of delivery by freely cutting open the cervix, vagina, and vulva (Dürhssen). Such measures have no justification unless immediate delivery greatly benefits the patient, and it does not. The right course is to let the labor go on with the least possible interference. Let the uterus do its work, and interfere only if some condition be present which makes natural delivery impossible.

Regarding the means of treatment to different stages of the disease, he says:

1. The patient has had a fit; she is restless and half conscious. The aim of treatment is to prevent further fits by lessening the irritability of the nervous system. We have three agents for this purpose—chloroform, morphia, and chloral. The first two are more powerful than the third, and chloroform is the quickest, but its prolonged use is sometimes impracticable, and not free from risk. I therefore prefer morphia. Give half a grain of morphia subcutaneously. Wait to see its effect, and if in half an hour the patient be not asleep, give a quarter of a grain more, or if the patient be still very restless, half a grain. If restlessness be great so that another fit seems imminent, give chloroform at once, and keep the patient under it until the morphia has had time to produce narcotism. Put the patient on her left side, in the semi-prone position, with her left hand behind her back.

2. The patient is in coma. The coma may be simply that which follows fits. If so, it will soon be broken by the restlessness which precedes fits, and then treatment by morphia will be appropriate. It may be accompanied by re-establishment of the urinary secretion, and then it will pass into natural sleep, and recovery will follow; and, if so, no treatment is needed. It may be deepening into coma which ends in death. For such coma baths are the only remedy. If the temperature is normal or subnormal, use the hot bath, followed by packing in hot blankets. If temperature is rising, the cold bath is the only way of reducing temperature, and the only hope of saving life. Watch the progress of labor, and interfere only if conditions arise which would demand interference in a patient not the subject of eclampsia.

Transpellicular Treatment.

By this term Unna describes, in his *Mon. f. Prakt. Derm.*, March 15, the application of green soap or of any strong remedy on top of a dried application of collodion. The effect of the drug is felt through the pellicle formed by the collodion, with its irritating properties abolished. The compression of the collodion film is peculiarly beneficial in cutaneous affections accompanied by a circumscribed angioneurotic edema—strophulus, insect bites, itching chilblains and lupus erythematosus—and the results of this combined transpellicular treatment are remarkably favorable.

An Alkaline Oxidating Substance for Dermatology.

Such a substance has long been sought, and Unna announces its discovery in a salve-soap made of three parts paraffinum liq. and seven parts sapo medicatus, with which natrium dioxid is incorporated—natronsuperoxyd. He states that he has never seen anything to compare with it in the rapidity with which it cures acne punctata and pustulosa, and rosacea seborrhoica, restoring the skin completely to normal. It is applied to make a lather three times a day, until it produces discomfort and is then rinsed off.

Salicylates in Gonorrheal Epididymitis.

Bettmann asserts that the pains are promptly relieved and the application of a compressing bandage made possible in three to four days, if 6 to 8 c.c. of a mixture of one part methyl salicylate to two parts olive oil is applied on cotton to the scrotum. It is then hermetically wrapped in rubber tissue, and fastened in a padded suspensory. The application is renewed every twelve hours.

Acute Coryza in Nurslings.

Dr. F. Figueira recommends, in *O Brazil Médico* of March 1, a mixture of ten parts almond oil to one part menthol, for external use. Instil one or two drops in each nostril three to four times a day. Keep constantly boiling in the room a mixture of 200 gm. water and 5 gm. essence of turpentin.

Medicolegal.

Nonexperts Can Give Opinion on Intoxication.—The testimony of an expert, the appellate term of the Supreme Court of New York holds, in Donoho vs. Metropolitan Street Railway Company, is not required to give an opinion on the question of intoxication, but the evidence of a nonexpert witness in characterizing the action of a person as that of an intoxicated person is admissible.

Medical Examiner's Report is Conclusive.—By an Iowa statute a life insurance company is debarred from setting up in defense of an action on a policy that the assured was not in the condition of health required by the policy at the time of the issuance or delivery thereof, unless the same was procured by the fraud or deceit of the assured. A medical examiner for a company pronounced a certain person "a fit subject for insurance." And when an insured is in such a physical condition as to be "a fit subject for insurance," the Supreme Court of Iowa holds, he is in a "condition of health required by the policy." Wherefore, it maintains, in Stewart vs. Equitable Mutual Life Association of Waterloo, that, in the absence of fraud or deceit practiced on the medical examiner of the insurer, the company was estopped from questioning the truthfulness of the assured's answers, and it holds that, unless the examiner was deceived by these answers, or in some other way, the company was not entitled to have the assured's condition of health investigated. Besides, it holds that, while, ordinarily, the intention of the insured is not involved where answers are warranted to be true, yet where their truthfulness depends on the construction of a question subject to two different interpretations, then his intention becomes important for his understanding of the inquiry determines the character of the answer, and the material inquiry is whether he truthfully responded to the inquiry as he understood it. Questions prepared by the insurer are to be construed liberally in favor of the policy holder. For example, the question, "How long since you have consulted a physician?" might by different persons be taken to be an inquiry as to how long since a physician was last, or first, consulted, perhaps depending on whether it was the person's habit to consult one or not, so it is held that an answer of "five years," referring to the beginning of the time of such consultation, could not be said to be false, though the ailment then was a "cold," and later diabetes, perhaps.

Transferred Note For Services Enforceable.—A physician practicing in San Augustine, Texas, and vicinity, was given a negotiable promissory note, which he transferred before maturity for value, and without notice as to what its consideration was. The note was given in reference to medical services, which were in fact never performed. Besides the physician had not complied with the requirements of the Texas statutes relating to physicians in order to entitle him to practice, and was not among the classes of persons exempted from the statute. Nor did it appear whether he had a diploma or not, in the action on the note, brought by the party to whom it was transferred. Now, under these circumstances, the physician would have been incapacitated from recovery for medical services, unless he held a diploma, says the Court of Civil Appeals of Texas. But, assuming that he held no diploma, it holds, Roach vs. Davis, that the rule forbidding his recovery would have no application to a negotiable note for services, in the hands of an innocent holder. And so here it affirms a judgment in favor of the holder of the note in question.

Physician Not Required to Attend Trial.—One of the grounds urged, on the appeal of the St. Louis & San Francisco Railroad Company vs. Kilpatrick, why a judgment for damages for personal injuries necessitating the amputation of the latter's foot should be reversed, was an alleged abuse of discretion in the trial judge refusing an attachment for a doctor who was wanted as a witness in the case. But the Supreme Court of Arkansas holds that there was no error in refusing the attachment because the company could not enforce the doctor's attendance, there being no showing that he had been summoned, and had failed to appear and give his deposition. Under the Arkansas statute, the court says, the deposition of a practicing physician may be used, instead of his testimony *ore tenus*, and such witness shall not be compelled to attend unless he has failed, when duly summoned, to appear and give his deposition. Moreover, it seems to think that some account ought also to be taken of the fact that it appeared that the testimony the doctor was expected to give was cumulative, and no prejudice could have resulted from his failure to testify.

Privileged and Private Communications.—The Iowa Code provides that no practicing physician shall be allowed, in giving testimony, to disclose any confidential communication properly entrusted to him in his professional capacity, and necessary and proper to enable him to discharge the functions of his office according to the usual course of practice. In Nelson vs. the Netherland Life Insurance Company, a physician was permitted to testify that he was consulted in his professional capacity by the assured on seven different dates, and that he prescribed for him during that time. In this, the Supreme Court of Iowa sees no infraction of the law. It points out that the evidence had reference to their relation solely, and not to any communications because of it, and that the fact that the witness attended the assured as a physician, and prescribed, involved no disclosure of any information obtained professionally. It further holds that the witness undoubtedly had the right to refresh his memory as to dates from the prescriptions. But whether they were admissible independent of his testimony it does not determine. But it regards it as a clear attempt to evade the statute to ask the witness whether he advised the assured as early as a certain date that he was suffering from a disease for which he was treating him, and also whether, at the time of the last treatment he suffered from any disease other than that for which he treated him at the date first referred to. It says that whatever the advice given, information on which it was based was derived from the assured; so, too, the doctor could only ascertain that the patient suffered from no other disease in the same way. Then, the prescriptions were, rightfully or wrongfully, introduced in evidence, and their ingredients explained. But the court does not believe the statute will permit such a disclosure, though indirectly made, as that which would be embodied in the fixing of the fact that the assured was suffering from one disease only for four months prior to his death and showing the treatment administered, from which the nature of the malady would be made known to those skilled in medicine. On the other hand, the court says that the statute does not prescribe any rule of professional conduct. The physician, in disclosing the secrets of his patient in conversation or writing, violates no law of which the court has knowledge, though such a course may be reprehensible, and in disregard of professional propriety. It is "in giving testimony" in a judicial proceeding that such disclosures are prohibited by statute, and doubtless this may no more be done by affidavit than orally. And here the court makes another distinction. As a part of her proofs of loss, the beneficiary presented to the company an affidavit by the physician who was the witness above mentioned. That affidavit disclosed facts indicating the invalidity of the policy. The company offered the affidavit in evidence. It was objected to as a disclosure of a confidential communication by the assured to his physician. The court says that the policy required no more than satisfactory proofs of death, and the company might, under this provision, demand that the fact of death be shown with reasonable definiteness and certainty. But, under the guise of ascertaining that fact, it had no right to insist upon information concerning the cause thereof, and that would have no direct bearing on such an inquiry. So the unnecessary statements made by the physician in his affidavit must be regarded as gratuitous. Nevertheless, and notwithstanding that the affidavit would have been incompetent as evidence of the physician, or of what he said, the court holds that, having been forwarded by the beneficiary for the consideration of the company in determining its lia[illegible]ity, it should be received in evidence as in [illegible] admission and accorded the consideration [illegible] all the particular circumstances of the [illegible]

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Boston Medical and Surgical Journal, April 12.

1.—*Folie À Deux. Arthur C. Jelly.
2.—*Use of the Angiotribe. J. Riddle Goffe.
3.— Problem of Boston's Insane. Philip Coombs Knapp.
4.— Work of Trustees of the Boston Insane Hospital, and Their Plans for its Future Development. Henry C. Baldwin.

Medical Record (N. Y.), April 14.

5.—*Diffuse Septic Peritonitis, with Special Reference to a New Method of Treatment, Namely, the Elevated Head and Trunk Posture, to Facilitate Drainage into the Pelvis, with Report of Nine Consecutive Cases of Recovery. George R. Fowler.
6.—*Observations and Suggestions Concerning Hypodermoclysis. Robert C. Kemp.
7.—*Nitrous Oxid and Ether Anesthesia. H. W. Carter.
8.—*Chronic Vertebral Rheumatism (Rheumatic Spondylitis) and its Pseudo-Neuralgic Form. H. Forestier.
9.—*Treatment of Superficial Wounds without Sutures. John F. W. Whitbeck.
10.— Case of Iodoform Poisoning in Infant Two Weeks Old. J. C. Josephson.
11.— Complication of Miscarriage with Appendicitis, due to Traumatism. Carl D. S. Früh.

Medical News (N. Y.), April 14.

12.— Two Cases of Recurrent Tubal Pregnancy. Philander A. Harris.
13.— Recent Advances in Treatment of Insomnia. Reynold W. Wilcox.
14.— Purulent Meningitis; Report of Six Cases. L. Napoleon Boston.
15.—*Legislation Needed in Regard to Apparent Death. Henry J. Garrigues.
16.—*Ligation of First Portion of Right Subclavian for Aneurysm of Third Portion. A. E. Halstead.

Philadelphia Medical Journal, April 14.

17.— Selections from the Lane Lectures: Senile Arterial Plethora. T. Clifford Allbutt.
18.—*Case of Death from Psychic Insult, with Remarks on Delirium Nervosum Dupuytren and Operation-Psychoses. F. Pagenstecher.
19.—*Control of Hemorrhage in Penetrating Wounds of Chest. Robert G. LeConte.
20.—*Case of Malarial Fever. Some Stains for Sporozoa of Malaria. Albert Woldert.
21.—*Peculiar Manifestations of Uremia. Frederick Krauss.
22.— Report of Case of Abdominal Pregnancy. Charles D. Center.

New York Medical Journal, April 14.

23.—*Primary Diffuse Small-celled Sarcoma of Parietal Pericardium. J. C. Williams and A. L. Miller.
24.—*Remarks on Perineorrhaphy, Chiefly in Reference to Mechanics of Deep Sutures. J. Milton Mabbott.
25.—*Gunshot Wounds. Report of Gunshot Cases in Spanish-American War and Deductions Therefrom. (*Concluded.*) W. C. Borden.
26.— Consideration of Neuromuscular Elements in Hip-Joint Disease, with Especial Reference to Questions of Abolition of Protective Treatment. Newton M. Shaffer.
27.—*Books are Injurious to the Eyes. F. G. Murphy.
28.—*Ankylostomiasis in Porto Rico. Bailey K. Ashford.
29.—*Experiments in Transfusion of Complete Blood. A. Davis Hard.

Cincinnati Lancet-Clinic, April 14.

30.— Penetrating Wounds of Eyeball. Francis Dowling.
31.— Hemorrhoids. George J. Monroe.

Medical Review (St. Louis, Mo.), April 14.

32.— Some Remarks on Dementia Paralytica, with Presentation of Patients. E. C. Runge.
33.— Eleven Cases of Castration and Their Histories. Merrill Ricketts.

Medical Age (Detroit, Mich.). March 25.

34.—*Significance of Postclimacteric Hemorrhages. F. A. L. Lockhart.
35.— Catarrhal Deafness. A. L. Adams.
36.— Use of Nauheim Bath in Cardiac Disease. F. R. Henry.
37.— Peritonitis, with Perforation of Small Intestine; Gunshot Wound of Abdomen with Thirteen Perforations. T. J. Crofford.

American Practitioner and News (Louisville, Ky.), February 15.

38.—*Thyroid Extract in Psoriasis. John E. Hays.
39.— Report of Case of Epidemic Cerebrospinal Meningitis Treated with Antistreptococcus Serum. J. D. Maddox.

Pediatrics (N. Y.), March 15.

40.— Hygiene of Children's Sleeping Apartments. Joseph Byrne.
41.— Cretinism, with Report of Case of Sporadic Variety. Christopher Graham.
42.— Five Years' Experience in Private Practice with Diphtheritic Antitoxin Serum. Frank W. Wright.
43.— Fatal Case of Carbolic Acid Poisoning in Infant, Due to Absorption by Skin. R. Abrahams.

Railway Surgeon (Chicago), April 3.

44.— Traumatic Neuritis or Traumatic Tetanus? S. R. Hewitt.
45.— Case of Fracture of Cervical Vertebræ. S. A. Spilman.

American Journal of the Medical Sciences (Philadelphia), April.

46.—*Contribution to Diagnosis of Diverticula in Lower Part of Esophagus. Franz A. R. Jung.
47.— Clinical Aspects of Plague. Frank G. Clemow.
48.— Remarkable Case of Probable Thoracic Aneurysm Presenting Intermittently Through the Sternum. Richard C. Cabot.
49.—*Experiment in Transmission of Syphilis to Calves. Mazyck P. Ravenel.
50.— Gumma of Iris and Ciliary Body. Recovery with Normal Vision. Charles A. Oliver.
51.—*Value of Electrolytic Dilatation of Eustachian Tubes in Chronci Tubal Catarrh and Chronic Catarrhal Otitis Media. Arthur B. Duel.
52.— Localization, Diagnosis, Prognosis and Treatment of Gonorrhea in Women. (*Continued.*) John G. Clark.

Yale Medical Journal (New Haven, Conn.), April.

53.— Chronic Endocarditis or Valvular Disease. O. T. Osborne.
54.— Garbage; What is Garbage, and How Can it Best be Disposed of? C. W. S. Frost.

Annals of Surgery (Philadelphia), April.

55.—*Surgery in Presence of Sugar in Urine. Arthur L. Fisk.
56.— Volvulus in Association with Hernia. R. Lawford Knaggs.
57.—*Traumatism Inflicted by Animals. R. Harvey Reed.
58.—*Use of Fixation Plates in Treatment of Fractures of Leg. Lewis W. Steinbach.
59.—*Relationship Between Cholecystitis, Jaundice and Gall-Stones. Archibald MacLaren.
60.—*Principals Involved in Immediate Hermetic Sealing of Aseptic Wounds. Henry O. Marcy.
61.—*Surgery of Gastric Ulcers. Thomas W. Huntington.
62.— Excision of External Two-Thirds of Gasserian Ganglion, by Hartley-Krause Method, After Preliminary Ligation of External Carotid Artery. Joseph M. Spellissy.
63.— Two Cases of Anomalous Spinous Process of Seventh Cervical Vertebra Articulating with Scapula. H. Augustus Wilson and J. Torrence Rugh.
64.— New Operating Table and Improved Bowl Stand. August Schachner.
65.— Conical Stump after Amputation in Childhood. Charles A. Powers.

Clinical Review (Chicago), April.

66.— What the Physician in General Practice Ought to Know about Insanity. E. A. Christian.
67.— Report of Some Surgical Work at Cottage Hospital, Harvard, Ill. C. M. Johnson.
68.— Mutilating Operations in Obstetric Practice. Denslow Lewis.
69.— Complicated Cataract Extractions: Enucleation for Panophthalmitis. J. Elliott Colburn.
70.— Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
71.— Cerebral Hemorrhage. D. R. Brower.

Journal of Nervous and Mental Diseases (N.Y.), April.

72.—*Landry's Paralysis; Remarks on Classification. E. W. Taylor and J. E. Clark.
73.—*Case of Unilateral Progressive Ascending Paralysis, Probably Representing New Form of Degenerative Disease. Charles K. Mills.
74.— Case Presenting Right-Sided Hemiplegia with Hemianesthesia, Right Homonymous Hemianopsia, Jargon Aphasia, Wernicke's Pupillary Reaction Sign and Neuritic Pain in Arm of Paralyzed Side. F. X. Dercum.
75.— Case of Acute Poliomyelitis Anterior, in Man 17 Years of Age. Wharton Sinkler.
76.— Transient Real Blindness in Hysteria. George C. Harlan.

Medicine (Detroit, Mich.), April.

77.—*Inguinal Hernia; Comparative Results of Radical Treatment by Operation and Treatment by Injection; Report of Cases. Thos. P. Scully.
78.—*Enzymes and Immunity. Chas. T. McClintock.
79.—*Observations on Recent Pathology of Acute Lobar Pneumonia as Basis for Treatment. James K. Crook.
80.—*Carcinoma in Cattle. Leo Loeb and George Jobson.

The Doctors' Magazine (Chicago), March.

81.— Surgical Clinic at College of Physicians and Surgeons. J. B. Murphy.
82.— Clinic on Syringomyelia, Neurasthenia, and Facial Paralysis. D. R. Brower.
83.— Medical Instruction in Syria. Franklin C. Wells.

Journal of Eye, Ear and Throat Diseases (Baltimore, Md.), March-April.

84.— Case of Empyema of Frontal Sinus. F. T. Rogers.
85.— Successful Application of Adrenal Extract in Rhinology. Wadsworth Warren.

Archives of Pediatrics (N. Y.), April.

86.—*Hypertrophic Pyloric Stenosis in Infancy. Eric Pritchard.
87.—*Note on Kernig's Sign in Infants. Frederick A. Packard.
88.—*Case of Congenital Goiter and Diaphragmatic Hernia. Isaac A. Abt.
89.—*Treatment of Whooping-Cough Without Drugs. N. R. Norton.
90.—*Drug Values as Observed in Management of 752 Cases of Whooping-Cough. Charles G. Kerley.

New Orleans Medical and Surgical Journal, April.

91.— Is Food Inspection Beneficial to Health? Charles Heitzman.
92.— Regulations for Lay Nurses, to Prevent Spread of Contagious Diseases and to Prevent Quarantines; Yellow Fever, Cholera, Plague, Smallpox, Diphtheria, Typhoid Fever, Scarlet Fever, Measles. Edmond Souchon.
93.— Typical Case for Use of Digitalis. Arthur V. Meigs.
94.— Case of Jacksonian Epilepsy Specific in Type. Traumatic Hernia. Carcinoma of Breast. W. W. Keen.
95.— Interesting Case of Enteric Fever, with Remarks on Diagnosis and Treatment of Peritonitis. Addison's Disease. James C. Wilson.
96.— 1. Treatment of Simple Case of Nausea and Vomiting in Pregnancy. 2. Care of Breasts after Miscarriage. E. P. Davis.
97.— 1. Treatment of Improperly Fed Child. 2. Bronchopneumonia. E. E. Graham

St. Paul Medical Journal, April.

98.— Bacteriologic Diagnosis of Diphtheria in Minnesota. F. F. Wesbrook.
99.—*Subnormal Temperature. Record of Three Cases with Comment on its Probable Cause. H. A. Tomlinson.
100.— Tropical Diseases. H. P. Ritchie.
101.— Value of Kindergarten as an Adjunct to our Public School System. Ogden H. Hammond.

Buffalo Medical Journal, April.

102.— Practical Psychology. Frederick Peterson.
103.—Rational Steps in Scientific Treatment of Nervous Prostration, Headache and Neuralgia. Ambrose L. Ranney.
104.— Uterine Hemorrhage. A. L. Beahan.
105.— Two Cases of Myelitis, One Subacute; Recovery; the Other Central; Death. Edward B. Angell.
106.— Radical Operation as Applied to Middle Ear Diseases. George F. Cott.

Pacific Medical Journal (San Francisco), April.

107.—*Gynecologic Treatment of Insane in Private Practice. Ernest Hall.
108.—*Modern Pathology in Diseases of Digestion. H. D'Arcy Power.
109.— Early Diagnosis of Bright's Disease by Increased Arterial Tension by Gaertner's Tonometer. Alfred W. Perry.
110.— Surgery of Vermiform Appendix. Winslow Anderson.
111.— Case of Nature's Surgery. Ernest S. Pillsbury.
112.— School Hygiene. Frank Howard Payne.

American Medical Compend (Toledo, Ohio), April.

113.— Hallucination: A Personal Experience. J. T. Woods.
114.— Eczema. J. L. Baird.
115.— Influenza. E. E. Armstrong.

Medical Mirror (St. Louis, Mo.), April.

116.—*Home Treatment of Consumption. William Osler.
117.—*Night Air of New England in Treatment of Consumption. C. S. Millet.
118.— Surgical Operations. How I Perform Them in the Home of my Patients. R. H. T. Mann.
119.— Treatment of Constipation. Joseph M. Mathews.

Western Clinical Recorder (Ashland, Wis.), March.

120.—*Pneumococcus Infection. Frank Billings.
121.—*Induction of Premature Labor. Jos. B. DeLee.
122.— Syphilis from a Dental Standpoint. L. Blake Baldwin.

Fort Wayne Medical Journal-Magazine, March.

123.— Some Moot-points in Management of Fractures. Chas. Stoltz.
124.— The Angiotribe. J. H. Carstens.
125.— Intravenous Transfusion of Normal Salt Solution, with Special Reference to its Use in Surgery. Miles F. Porter.

Medical Register (Richmond, Va.), January.

126.—*Treatment of Cancer of Cervix or Uterus Complicated by Pregnancy. George Ben. Johnston.
127.—*Use and Abuse of Vaginal Douche. I. S. Stone.
128.— Organotherapy: Some Clinical Uses. Clifton M. Miller.
129.— Congenital Measles, with or without Symptoms of Disease in Mother: Report of Four Cases. C. W. Keel.

Medical and Surgical Bulletin (Nashville, Tenn.), March.

130.— Bubonic Plague. Thomas L. Maddin.
131.— Treatment of Croupous Pneumonia. W. G. Ewing.

Iowa Medical Journal (Fort Dodge), March.

132.— Nasal Accessory Sinus and Middle Ear Complications of La Grippe. F. H. Boucher.
133.— Self-Medication. Wm. B. Doherty.

Medical Examiner and General Practitioner (N. Y.), April.

134.— Extra Rating of Unhealthy Lives. E. Symes Thompson.
135.— Medical Examiner: What He Does and Why He Does It. Geo. W. Wells.
136.— Can Beginning Pulmonary Tuberculosis be Diagnosed Through a Shirt? Andrew H. Whitridge.

St. Louis Clinique, April.

137.— Licensing of Carnal Houses. Amzi S. Plummer.
138.— Some Newer Therapeutic Agents. C. W. Lillie.

American Therapist (N. Y.), February.

139.— Superiority of Holocain to Cocain for Certain Ophthalmic Operations and Diseases. Edward Jackson.
140.— Another Illustration of Value of Elevated-Hip Position in Difficult Labor. Abram Brothers.
141.— Is Cancer Curable? J. M. G. Carter.

Medical Summary (Philadelphia), April.

142.— Abnormal Labor: Malrotated, Persistent Occipito-Posterior Position of Fetal Head, Face to Pubis, Causing Lingering and Dangerous Labor. T. C. Comstock.
143.— Treatment of Catarrh of Nose and Throat. S. D. Sour.
144.— Accurate Science of Bacteriology. A. T. Cuzner.
145.— Can We Really see with Our Eyes or the Brain. J. Waterloo Dinsdale.
146.— Gelsemium and its Active Principles. W. C. Buckley.
147.— Complicated Case of Obstetrics. Louis J. Pons.
148.— Biochemistry. C. C. Edson.

St. Louis Medical and Surgical Journal, April.

149.— Antinosin in Skin Grafting. R. F. Amyx.
150.— Pseudoleukemia: Report of Two Cases. A. L. Ohmann-Dumesnil
151.—*Technique of Excision of Superior Cervical Ganglion of Sympathetic for Glaucoma. James Moores Ball.

Seaboard Medical and Surgical Journal (Norfolk, Va.), March.

152.— Some Remarks on Ethics. Israel Brown.
153.— Progressive Procedures in Bone Surgery. James N. Ellis.

Journal of Medicine and Science (Portland, Me.), March.

154.— Development of Serumtherapy. W. H. Kimball.
155.— Rheumatism. S. J. Bassford.
156.— How Much May We Expect from the Treatment of Cretinism? H. B. Palmer.
157.— Bacteriology. C. A. Peaslee.
158.— Electric Communications Around the World. Franklin Staples.

Regular Medical Visitor (St. Louis, Mo.), March 15.

159.— Uterine Cancer and Its Treatment. Thomas More Madden.
160.— Chronic Catarrhal Pharyngitis. O. F. Baerens.
161.— Case of Bichromate of Potash Poisoning. John Dillon Thompson.
162.— Cosmetic Treatment: Some General Observations. E. E. Holt.
163.— Physician and Law. Norwood Fitch.

Southern Practitioner (Nashville, Tenn.), April.

164.— Intestinal Obstruction. (*Continued.*) Richard Douglas.
165.—*Smallpox. Its Successful Abortion and Treatment as Originally Suggested and Adopted by Dr. Thomas Crutcher Osborn. S. H. Stout.

Texas Medical Journal (Austin), March.

166.— Is Fever a Conservative Force? J. W. Embree.
167.— Something Needed for Worthy Doctor to be Appreciated. R. H. Simpson.
168.— Instrumental Delivery. A. R. Kuykendall.
169.— Abortion: Spontaneous and Induced. J. A. Winfrey.
170.— Ossification of Choroid. James Moores Ball.

Texas Clinic (Dallas), March.

171.— Epilepsy. J. S. Turner.
172.— Some Familiar but Neglected Topics. F. W. Gallager.

American Journal of Surgery and Gynecology (St. Louis, Mo.), March.

173.— Infection from old Hematoma: Peculiar End of Hernia: Parovarian Cyst: Suppurating Cystoma: Hysterectomy for Pus Tubes Rufus B. Hall.
174.— Surgical Intervention for Severe Intestinal Hemorrhage Complicating Typhoid Fever. Edwin Ricketts.
175.— Appendicitis Simulated by Hydrosalpinx with Twisted Pedicle. J. F. Baldwin.
176.— Examination of Gut in Recent Successful End-to-End Anastomosis. Geo. W. Crile.
177.— Ovarian Pregnancy; Report of Case at Full Term. B. Merrill Ricketts.
178.— Protoscopy Under Difficulties. Thos. Chas. Martin.
179.— Management of Hypertrophied Prostate Gland. Frank Warner.
180.— Report of Three Cases of Gunshot Wounds of Abdomen. Clarence S. Miller.

AMERICAN.

1. **Contagion of Insanity.**—The contagion of insanity is illustrated by a number of cases reported by Jelly, who points out the characteristics of the condition, and its pathogenesis, which is that of sympathy and suggestion, its diagnosis, and its prognosis, which is good unless there is bad heredity. The first thing in treatment is separation, which is usually followed by recovery.

2. **The Angiotribe.**—The introduction of this instrument into America is due to Dr. Clement Cleveland, to whom Goffe gives due credit. The instrument is illustrated and described, and its advantages stated: 1. The superiority of this method of controlling the blood-vessels over the former method of applying forceps. More and more room is gained with each application. 2. The handles of the forceps protruding from the vagina were a great source of annoyance and discomfort to the patient. Moreover, the forceps had to be removed at the end of thirty-six or forty-eight hours, and in a certain proportion of cases hemorrhage occurred from the tissue adhering to the forceps and being torn away as they were withdrawn. After the use of the angiotribe none of these disturbances arise; convalescence is smooth and comfortable. There is very much less pain after using than by either the old forceps application or use of ligatures. 3. It is superior to ligatures in two respects: it is more easily and quickly applied and it is attended by less discharge during convalescence. The angiotribe has also a field of application in dealing with hemorrhoids.

5. **Diffuse Septic Peritonitis.**—The principal point made by Fowler is that the pelvic peritoneum possesses certain resistant powers to infection which are not shared by those portions situated above, hence he advises posture to facilitate drainage into the pelvis in cases of septic infection. Nine cases are reported in which this method was used, all ending in recovery. The two points in the treatment, on which he feels ready to speak with confidence, are the advantages of the employment of the elevated head and trunk position and the drainage of the pelvic cavity, at least by means of properly-placed and protected glass drains. He thinks transference of the septic fluids from the most dangerous areas of this enor-

mous lymph sac to a less dangerous region, and removing these from the latter by proper means of drainage, constitute not only a rational but an imperatively-demanded procedure.

6. **Hypodermoclysis.**—Kemp suggests the choice of the iliolumbar region, especially laterally, as the locality for the hypodermoclysis. The specific effect of this procedure on the renal secretion is especially valuable where it is desirable to stimulate urinary secretion. The elimination begins in four or five minutes. The rapid absorption, however, is modified by certain clinical conditions, as in the uremic states, and this should be considered; sloughing has occured in the breast, from too great or rapid injection of saline solution. In certain cases, however, where the rapidity of absorption is lessened, it is of much value, as in hemorrhage from typhoid or gastric ulcers. The method also appeared to be of some value in cases of poisoning by alkaloids, and he suggests it in belladonna poisoning, while it is worthy of trial in that from opium. Hypodermoclysis has been found to be of value in pleurisy with effusion, and in enterocolitis in infants and children, also as an eliminative in diphtheria, following antitoxin injection, and in nephritis complicating diphtheria. Dawbarn's method of using hot saline injection is an excellent one, but in some cases should be preceded by a preliminary saline hypodermoclysis. In conclusion, he describes an apparatus for converting the hypodermic needle into a needle for hypodermoclysis.

7. **Nitrous Oxid and Ether Anesthesia.**—Carter calls attention to the apparatus advised by Dr. T. L. Bennett for the combined administration of nitrous oxid and ether anesthesia, which he thinks is, in some respects, superior to the Clover-Hewitt apparatus used in Great Britain. The most of his paper is taken up with the details of the administration.

8. **Chronic Vertebral Rheumatism.**—After first noticing the papers by Zenner and Dana on spondylitis Forestier describes a pseudoneuralgic form of chronic vertebral rheumatism characterized by: 1. Temporary rigidity of the vertebral column, without any ankylosis from muscular contraction, giving the patient a peculiar stiff gait; these symptoms depend on the pain which the patient feels when he moves the trunk. 2. Predominant pseudoneuralgic pains; pains radiating from the back through the lower limbs, simulating in some instances either tabes or pachymeningitis spinalis externa, or even Pott's disease. 3. Coincidence of arthritis involving some peripheral joint, showing there is a rheumatic process. 4. Curability under such treatment as the Aix-les-Bains douche-massage, the recovery showing that the pathologic process may be considered as rheumatic. This, he thinks, has been noticed in textbooks. Five cases are described. There is no deformity of the spine. The subjective symptoms are: pseudoneuralgia, various pains irradiating from the back, intercostal, girdle and sometimes shooting pains in the limbs. No paresthesia, no trophic changes, no muscular atrophy exist; as a rule the knee-jerks are exaggerated. The clinical feature which differentiates this from the ankylosing type is the fact that it is curable.

9. **Treatment of Superficial Wounds Without Sutures.**—Whitbeck thinks that absorbent cotton and collodion will suffice to produce prompt and good union of superficial incised and lacerated wounds. After free asepsis of the skin the edges of the wounds are brought together and secured by cotton and collodion alone, or narrow strips of isinglass plaster moistened by bichlorid solution or by some strips of muslin or linen painted over with a thin coat of flexible collodion. After this the thinnest possible layer of absorbent cotton is applied and, if there is a little blood oozing, it will help the dressing, discoloration being only slightly objectionable. He has used this method in various injuries of the scalp, head, face, thigh, etc., and thinks that its advantages are obvious. It makes a finer and better cicatrix than do sutures, and in suitable cases will not fail.

15. **Apparent Death.**—Garrigues notices the signs of death and their value, and holds that the law should require the personal inspection by the physician who signs the death certificate, and the filling of blanks giving the most important signs that are present or absent, and that until the death certificate is signed the supposed dead should be treated as a living person and nothing done that would cause him pain or do him harm if he were alive. This would prevent bodies being put on ice, embalmed, etc., before the death certificate was signed.

16.—See abstract in The Journal of February 17, p. 422.

18. **Psychic Insult and Death.**—Pagenstecher's paper reports the case of a man who had suddenly died after slightly scratching his hand. Apparently under the impression that he had got blood-poisoning in the wound he begged for amputation of his arm. There was active delirium with various delusions, followed by great weakness. There was no fever, but a quiet pulse and the patient could be aroused at any time. Twenty hours after injury there was an incomplete crisis with profuse sweating; death followed thirty-two hours after injury, and was entirely unexpected. As the man was carrying a very large life insurance the case was brought up in court and several theories as to his death were suggested, one that he committed suicide with curare, one of malingering throughout, and one that tetanus was the cause of death. He offers the case as a peculiar one of some medicolegal importance and unique in some of its features.

19. **Penetrating Wound of Chest.**—The symptoms and conditions of penetrating wounds of the chest are described and a case reported by LeConte. He concludes that when the wound of the lung is giving only slight hemorrhage, it is best to close the external wound with gauze and watch for the physical signs of bleeding. When the hemorrhage is more marked, he says to open the chest, insert a small drainage-tube, and regulate the admission of air according to the difficulty of respiration in the patient. When the hemorrhage is large and its symptoms alarming, open the chest and insert a large drainage-tube, so as to form a rapid and complete pneumothorax, and at the same time, when necessary, inject salt solution into a vein. When this does not control the hemorrhage, resect one or more ribs, and deal radically with the bleeding. In severe hemorrhage from a lung, the first object of treatment should be to get pressure on that lung. By opening the chest air will do this as well as blood in the pleura; it will do it instantly instead of waiting until a sufficient amount of blood has been poured out; it will save to the patient the amount of blood necessary to exert this mechanical pressure; it will permit the vessels to close by clots, and the remote benefits are that it eliminates the dangers of pyothorax or of universal adhesions of the pleura. He does not think that the fact that danger of engorgement of the right side of the heart is serious in full-blooded dogs would necessarily make it so in an exsanguined man, as the cases are not parallel. While these views are his own, he admits they are not indorsed by the majority of surgeons, but he gives them as the results of his experience.

20. **Malaria.**—Woldert reports a case of estivoautumnal fever with tertian paroxysms, originating in Philadelphia, and describes Futcher and Lazear's stains for malarial parasite, giving also one of his own. "By this method the specimen must be fixed by heating at 115 C.—239 F.—for fifteen or twenty minutes and stained. The formula for making the stain is as follows: Solution No. 1—toluidin-blue, 15 grains; distilled water, 34; solution No. 2—acid fuchsin, 15 grains; distilled water, 3ss; solution No. 3—2 per cent aqueous solution of eosin. To No. 1 he adds 20 drops of No. 2, and afterward 20 drops of No. 3. When these are mixed together a reddish stain is produced, in the bottom of which a heavy precipitate occurs. It is essential that the solutions be mixed in the bottle from which the stain is to be subsequently used, as the precipitate seems to be of advantage in the "ripening" process. After fixing by heat, the specimen is stained for five minutes in the cold, washed in water, dried, and mounted in Canada balsam. By this method the malarial parasites are stained blue, the red cells a faint pink, and the nuclei of the leucocytes blue. The pigment granules of the malarial organism remain a very dark color. The parasites are easily found by this method.

21. **Uremia.**—Krauss reports a case occurring in a person with a fair secretion of urine containing no albumin, in whom there were unilateral convulsions and paralysis of the opposite side. No lesion of brain was found on autopsy.

23. **Malignant Diseases of the Pericardium.**—The rarity of the occurrence of malignant growths of the pericardium make the case reported by Williams and Miller of considerable in-

terest. It was in a boy, 13 years of age, who had been troubled with some peculiar symptoms, and the post-mortem showed a small-celled, diffuse sarcoma of the parietal pericardium, which is illustrated. The origin of it is discussed by Williams, who concludes, from the absence of glandular enlargement elsewhere, the uniform thickening of the pericardium and freedom of epicardium from invasion, that it must have originated in the lymphatic layer of the pericardium itself.

24. **Perineorrhaphy.**—The principle to which Mabbott calls attention is that of the effects of pressure or tension by sutures, which is toward the center and equal from all directions; hence sutures placed in the elliptical form tend to produce circular pressure, and the point here made is that we should put the suture in the perineum so deeply into the tissues that when drawn tense it may coapt the parts without longitudinal compression, the whole tissue enclosed in the suture being circular, so that the rent is not distorted. The paper is illustrated by diagrams which explain it better than can be done by text. The author thinks what is true of primary operations is equally so of secondary. The sutures should be passed so deeply in the tissues that the coapted surfaces will not be contracted or wrinkled. Make the sutures include enough tissue on both sides of the wound to enable them to exert their greatest traction in the right direction and hold the wound surfaces together in their natural relations.

25. **Gunshot Wounds.**—Borden gives the general results of his observations, 202 in number. He finds that perforating and penetrating wounds by the compound modern bullet are usually aseptic, that the shock and injury to tissue are slight provided no important nerve or vessel is injured, that in the bone it produces some comminution which may, if near the joints, give rise to some impairment of function. The wounds of exit are often smaller and seldom larger than the wound of entrance, and are little influenced by the tissue through which the bullet has passed. Lodged bullets are usually due to long range or to ricochet, and seldom produce immediate harm in the tissues. The proportion of killed to the wounded has not been increased. As regards surgical methods, asepsis and antisepsis have been the greatest factors in reducing the number of complications and mortality; excellent results are derived from the first-aid packages. The bullets remaining in the tissues usually give rise to discomfort and disability sooner or later, hence removal should be done, but deferred until aseptic conditions are available. The Roentgen rays are of the greatest value in military surgery, and where they show the need, there should be no hesitation in operative interference, or where there is displacement of bone, everything being done under aseptic methods. Surgical asepsis is impossible in the field or in field hospitals, and operative interference there should be restricted to measures imperatively demanded to save life or decrease the probability of death where transportation without operation would be more dangerous than possible septic infection from immediate operation. The transportation of the wounded to permanent base hospitals should be facilitated as much as posible.

27. **Books Injurious to Eyes.**—Injuries to eyesight, from books, may occur in three ways: 1, reading on curved surfaces, which is the rule; 2, light reflection when reading from such a surface; 3, long lines running the entire width of the page. The only way to avoid the first trouble would be to have the lines run parallel to the binding instead of at right angles to it, and this would also aid in lighting the book from the side and avoiding reflections. The great width of reading columns is tiresome to the ocular muscles and often requires movement of the head. Where this is not done fatigue is very much increased.

28. **Ankylostomiasis in Porto Rico.**—Ashford describes the disorder due to ankylostoma duodenale which is the most destructive and general disease of Porto Rico, largely prevailing in the poorer classes and due to their unsanitary habits and underfeeding. He describes the condition at length. It is characterized by pallor, passive expression, anemia, often hypostatic congestion of the lungs, sometimes anemic ulcers, pernicious secondary anemia, hemic murmurs, very low proportion of red globules and hemoglobin, marked eosinophilia, no leucocytosis due to the disease itself, frequent presence of normoblasts, sometimes megaloblasts, poikilocytosis and the utter uselessness of blood tonics unless the parasite is dislodged. He thinks that with the improvement of sanitary conditions the disease can be to a considerable extent controlled.

29. **Blood Transfusions.**—Head reports experiments in transfusions of the blood, to support his theory that vitality is increased by the assimilation of protoplasmic cells in this way.

34. **Postclimacteric Hemorrhages.**—Importance of attention to any colored discharge occurring after the change of life is emphasized by Lockhart. He points out the conditions which produce it and their distinguishing marks from carcinoma. One of these is the senile simple endometritis of the hemorrhagic variety; in this the hemorrhage is in the form of constant oozing instead of gushes of blood, and the fluid is inclined to be dark and mixed with mucus. General oozing is almost always characteristic of senile hemorrhagic endometritis. It has been said that in extensive atheromatous changes generally the uterus is also thus affected, but Lockhart rather doubts this and thinks that the uterus may be entirely free from the condition though the other organs are extensively involved. In addition to these conditions we have hemorrhages from subcutaneous fibroid, but it is rare to not have this manifest itself until after the climacteric. In cases of small tumors it may be difficult to diagnose, but the steady oozing of blood and lack of cachexia are against the existence of cancer. If after pathologic examination by the curette, the disease is described as benign, it should be watched carefully for several months. If the hemorrhage should return after the second, or at most the third, curettage, Lockhart would strongly advise removal of the uterus. In a case where there is a reasonable doubt, the safe side is hysterectomy.

38. **Thyroid Extract in Psoriasis.**—Acting on the suggestion of Bramwell and Barclay, Hays tried thyroid extract in three cases of psoriasis, without any satisfactory results. He does not think the promise of this remedy good in this disease.

46. **Esophageal Diverticula.**—Jung reports a case of esophageal diverticula, in detail, which he tested by various methods. He suggests that it will be well to consider the following points in the differential diagnosis of this condition: 1. With dilatation as well as with diverticula there occur painful cardiospasms (Kelly, Jung), as well as painless cases (Reitzenstein). 2. In both vomiting occurs from the esophagus, occasionally from the stomach. Even in cases of typical cardiospasms eructation from the stomach may occur. 3. If food eaten one or two days before is vomited while other food eaten in the meantime remains down, the case seems to be one of diverticulum. No observations to the contrary have so far been made. 4. The swallowing sounds are abnormal in all cases of dilatation. In cases of diverticula the swallowing sounds are audible in 33 per cent., and can be used for diagnostic purposes (Kelling's method). Westphalen's sound can also be heard in diverticulum with dilatation of the esophagus (Jung). 5. If after emptying the esophagus it is easy to enter the stomach, a diverticulum probably exists (Mintz, Reichmann). Yet the passage of the tube may be difficult. "Only once out of ten experiments does one find the cardia and gain entrance into the stomach" (Reitzenstein). 6. In making Rumpell's test, proof must be furnished that the tube is actually in the stomach. Inflation in this case is impossible, as feeling of the sound is not always practicable. 7. The proof positive of having entered the stomach is obtaining gastric juice through the inner tube (Jung). 8. Mercier's sound or Leube's diverticulum tube are necessary in order to find the entrance into the stomach. These tubes must be perforated for the diverticulum test, and by means of a thin inner tube gastric juice can be brought up. 9. After a diverticulum has been diagnosed, its height can be ascertained: *a*, by Kelling's test—swallowing sounds—and, *b*, by filling the diverticulum with a colored solution and putting a narrow strip of white adhesive plaster longitudinally on the tube. 10. Neubauer's experiment for ascertaining the level of the liquid can also be used, according to Kelling, to determine the entrance into the diverticulum. 11. The entrance of the diverticulum can easily be overlooked by esophagoscopy. 12. Gastrodiaphany did not show the diverticulum in Mintz's case, and gave no information about the kind of enlargement. In

Reitzenstein's case it was impossible to diagnosis diverticulum by gastrodiaphany alone. 13. X-rays show an enlargement of the esophagus only. 14. The statements of even the most experienced patient, that the tube is in the stomach, are often erroneous. The bending of the tube gives the patient and physician alike a sensation as though it had entered the stomach.

49.—See abstract in The Journal of March 3, p. 560.

51. Electrolysis of the Eustachian Tubes in Chronic Tubal Catarrh.—Duel reports three cases in detail, and tabulates some fifty in which electrolysis was therapeutically employed for the relief of chronic obstructive catarrh of the Eustachian tubes. He presents the following conclusions for consideration: 1. The pathologic process in inflammatory conditions of the Eustachian tube and the tympanum is the same, i. e., hyperemia, followed by the exudation of round cells, which organize into new connective tissue, and subsequently atrophy. 2. The names "chronic tubal catarrh" and "chronic catarrhal otitis media," then, should suggest only a difference in position of the inflammation and not in its character. 3. Where the affection is confined to the tube, the impairment of hearing is functional, and is restored as soon as the normal patency of the tube is effected. This is true also of tinnitus and vertigo. 4. Tubal obstruction is present early in a very large percentage of all cases of chronic hypertrophic catarrhal otitis media, and in such instances is one of the chief contributing causes to the further advancement of the disease within the tympanum. 5. It is our duty, then, wherever there is a stenosis of the Eustachian tube, to remove the obstruction as rapidly as possible. 6. In every instance where the obstruction is due to an organized exudate, the best method for its removal is electrolysis, for the following reasons: *a.* It is more rapid. In several instances one application of the electrolytic bougie has been sufficient to cause the reabsorption of the deposit, and in the majority only a few applications have been necessary to secure a patent tube. *b.* It is more efficient. The disappearance of the exudate results from electrolytic action and not by mere pressure, as in other methods of dilating strictures, and consequently requires less force. There is, therefore, less danger of traumatism. The electrolytic bougie has been easily passed through strictures which were so firmly organized that it was impossible to pass a cotton bougie. *c.* The results are more permanent. A stricture once removed by this method is permanently removed. The primary cause, acting again, may bring about its reappearance, but by careful attention to proper treatment a large percentage of the tubes may be kept patent. 7. The removal of obstructions in the Eustachian tube is only a large factor in and not the whole treatment of chronic tubal catarrh and chronic catarrhal otitis media. 8. The prognosis in any given case depends largely on the amount of injury to the tympanic structure. Where inflation is followed by marked temporary relief of deafness, subjective sounds or vertigo, one may expect brilliant results from the establishment of the patency of tubes. Where no temporary improvement follows inflation, much may be accomplished, although the results are by no means so certain. The narrow tube should be opened, nevertheless, in every instance, with the hope of checking the advance of the disease. In a word, then, the writer wishes to make the points that: 1, all narrow tubes should be restored to their normal caliber; and, 2, where the narrowing is due to an organized inflammatory exudate, the best means of accomplishing this is by electrolysis.

55. Surgery in Glycosuria.—From his own experience and the observation of others, Fisk concludes that the presence of glycosuria in those individuals who have surgical diseases does not in itself constitute contraindication to any and all surgical relief. Good judgment must be used in the selection of cases and in the determination of the kind and extent of operation to be performed. Strict surgical asepsis must be observed. When infection does not occur the operative wounds heal kindly, but slowly, especially in granulating wounds. The vascularity of the tissue must be interfered with as little as possible, and this must be kept in mind in any operation, particularly so in gangrene of the extremities, where experience shows the necessity of high amputation. He thinks it better to cut down on and ligate the artery in these cases rather than use the Esmarch band.

57. Traumatisms Inflicted by Animals.—Reed discusses the supposed existence of greater danger of hydrophobia or tetanus from wounds inflicted by animals, and reports two cases where lacerations were very extensive but only constitutional disturbances occurred, due to ordinary suppurative infection. He thinks it advisable to in such cases convert all punctured wounds into open ones by free incision, to avoid the dangers of infection.

58. Fixation Plates in Limb Fractures.—Steinbach reports on his method of using silver plates with screws to keep the fractures of the long bones in proper apposition, and reports four cases, illustrated by skiagrams. He finds the plate a harmless tenant in the leg, and leaves it in position until bone union has taken place. Its removal is then accomplished under local anesthesia.

59. Cholecystitis, Jaundice and Gall-Stones.—MacLaren believes jaundice a very much overrated symptom and the passage of gall-stones a rather unusual occurrence. Inflammation of the gall-bladder is the first step in the majority of cases and gall-stones are rather a symptom than a disease. Since his attention has been called to this subject, he has seen only one case which did not show either past or present evidence of inflammatory action in the gall-bladder.

60. Hermetic Sealing of Aseptic Wounds.—The condition of soil is of importance only second to that of seed which may be planted in it, in this matter of infection, according to Marcy. The advice he gives in wound technique is the recognition of the vitalized structures with which we have to deal, and to injure them by clean dissection as little as possible; to remember that even the largest vessels require comparatively little force for their occlusion, and that coapted, well-vitalized structures held at rest furnish a minimum of exudates; that it is of first importance to preserve these; that on this account the drainage-tube has been wisely abandoned, as harmful as a foreign body. He speaks of the importance of thoroughly antisepticizing the suture material and the advantages of rubber gloves in preventing possible epithelial-cell infection. He thinks that iodoform collodion, strengthened by a few fibers of cotton, is an ideal dressing for the purpose of preventing subsequent infection. Subsequent dressing is of no avail except to keep the parts from extraneous injury. The one operation should be final for good or evil.

61.—See abstract in The Journal of February 17, p. 426.

72. Landry's Paralysis.—Taking as a text a typical clinical case in which the post-mortem findings were rather negative as regards peripheral nerve degeneration or an exciting bacterial infection, Taylor and Clark discuss the literature and the inconstant pathology of the so-called disease, and conclude that inasmuch as there is no essential constancy in the clinical symptoms, nor in the pathologic findings of so-called Landry's paralysis, and inasmuch as the etiology is wholly vague, it is probable that the affection does not represent in itself a process to which the term "disease" may properly be applied, and that, therefore, it is desirable to drop the term, as unnecessary and misleading.

73. Unilateral Ascending Paralysis.—Mills describes a case of gradually ascending paresis of the right side, with temporary hyperesthesia, wasting of muscles, retention of sensation and faradic reaction, exaggerated knee-jerk, but diminished plantar reflex on the right, and normal ocular and pupillary symptoms; no spasm nor contracture. The clinical picture does not correspond fully with any known disorder, and he is inclined, from this and other somewhat similar cases, to a diagnosis of a slowly increasing degeneration of the pyramidal fasciculi or the cerebral motor neuron system.

77. Inguinal Hernia.—After noticing the operative methods for the relief of inguinal hernia, Scully describes his method of treating it by injection, which consists in the use of a formula containing fluid extract of white oak bark, ℥iss; solid extract of white oak bark, ʒiss; with carbolic acid and iodin, each ʒii; and morphin, gr. x. It is important that a perfectly fitting truss should be used before and after injection. After antiseptic cleansing of the part the needle is introduced over the site of the internal ring and pushed down until it passes the end of the finger pushed into the canal. Three to five minims should be injected. As the finger is withdrawn the needle is made to follow it for about one-half inch, during which time the fluid is still being injected, and when twenty minims have been injected the needle should be withdrawn suddenly to avoid depositing any of the fluid in the subcutaneous tissue, where it would cause intense burning. The truss should be placed in position immediately, and the patient lie down for about half an hour. If there is much pain, placing a hot-water bag over the site will soon ease it. The injection should be repeated once a week for three or four weeks when, if the hernia does not come down after taking off the truss; and having tested it by the patient coughing or stooping, no more injections need be given. The truss should be worn at least four weeks longer. During the last eight years he has treated 148 patients in this way. Of 28 double hernias, none were cured, but all were benefited so that the truss was retained with more comfort. Of 120 single hernias, 50, or 48 per cent., were successful one year from the date of last injection. In 16 children treated included in the 58, all were successful; none had more than two injections. He thinks that we can promise cure in recent inguinal hernia by this method. Cases of long standing can only be relieved in some cases, and operation is the elective method in such.

78. **Enzymes and Immunity.**—McClintock believes that the means of defense of the system against disease is through enzymes. He questions whether we can produce these outside the body and lend them where there is need—probable though not fully proved.

79. **Pneumonia.**—The treatment of pneumonia as enforced by our knowledge of it as an infectious disease is discussed by Crook, who reviews the physiologic action of calomel, quinin, salicylic acid, and creosote, and points out the unanswered questions in regard to the action of these remedies. After a careful survey of the field, he thinks the following conclusions are forced upon us: 1. The discovery that pneumonia is an infectious disease and the recognition of its pathogenic microbe increase the hope that an abortive or specific form of medication will be brought to light. 2. Recent research strongly indicates that our chief reliance for an improvement in our present methods of treatment rests in the elaboration of a satisfactory form of antitoxin. 3. The use of antiseptics for the destruction of pathogenic microbes in the tissues is very limited. Pathologic chemists as well as clinical observers now recognize the hopelessness of attempting to discover any single body which will destroy all forms of bacteria in the system while leaving the host unimpaired. The discovery of specific remedies for several diseases, however, shows that certain agents act more powerfully on the cause of disease than on the tissues of the patient, and inspires the hope that the list of conditions thus yielding to specific medication may be extended. 4. Coming to the consideration of pneumonia, however, it must be confessed that little actual progress has been made in this direction. It would appear that the field has not been sufficiently traversed by the pathologist and the chemist to light the way for the clinician. Several facts in connection with the natural history of the micro-organisms concerned in the disease still require elucidation, and we should have fuller information concerning the antiseptic solutions and the strength of these required to exterminate the microbe, before we can proceed intelligently or safely. In the treatment of pneumonia, we should remember that it is self-limited, and its tendency is to recovery if we can keep the patient alive a few days; therefore, while we may cautiously test the new germicidal remedies, we should not widely depart from an intelligent expectant form of treatment.

80.—See abstract in The Journal of February 24, p. 493.

86. **Hypertrophic Pyloric Stenosis in Infancy.**—From a review of the cases in literature, and their analysis, to which he adds a report of one of his own personal observation, Pritchard concludes as follows: 1. The hypertrophy is secondary to overaction of the sphincter, and the stenosis chiefly due to spasm. 2. The stenosis as measured "post-mortem" is but an accurate gauge of its organic degree during life. Over[illegible] and inco-ordinated contractions of the sphincter may be due to some fault in the nervous mechanism. 4. Injudicious feeding, either quantitatively or qualitatively may be a contributory factor of the nervous inco-ordination.

87. **Kernig's Sign in Infants.**—The value of a positive sign in the meningitis of children led Packard to observe for the occurrence of Kernig's sign, so valuable in adults. He reports three cases in which it was not found, and, while he would not be considered as endeavoring to belittle its value, he calls attention to the possible error that might arise from attaching too much importance to it in the case of infants. In these three patients meningitis was determined by autopsy. All were under 18 months of age, and in all the sign was absent during life. A question still to be solved is at just what age this sign becomes significant; its value in older children can not be denied.

88. **Congenital Goiter and Diaphragmatic Hernia.**—Abt reports and illustrates a case of this condition and discusses the pathology.

89. **Treatment of Whooping-Cough.**—Two methods of treating whooping-cough are especially studied by Norton, the administration of carbonic acid gas by the rectum and the use of the O'Dwyer laryngeal tube. The former was tried in 150 children. In 143 there was apparently decided benefit. The vomiting ceased even in serious cases, on the second or third dose. The number of paroxysms was reduced and their severity diminished. The other seven were not benefited. The only ill effect to be possibly attributed to the method was a mild diarrhea in a few patients, probably due to irritation of the rectal tube. O'Dwyer's tube has been tried in three cases of complicated whooping-cough and laryngeal diphtheria. The effects of the tube on the larynx on whooping-cough were interesting. There were the signs of beginning paroxysm, excitement and the desire to hold on to something for support, followed by spasmodic cough of usual length, sometimes even causing cyanosis, but there was no glottic spasm. Air entered the lungs freely and paroxysms terminated abruptly without the least distress or vomiting. After the removal of the tube the symptoms were the same as before its insertion. He thinks O'Dwyer's views of the usefulness of this appliance in serious cases of whooping-cough appear well grounded.

90. **Drugs in Whooping-Cough.**—Kerley reports experiments with quite a number of drugs in this affection, systematically undertaken and the results recorded. His conclusions are: 1. Every case of whooping-cough may be ameliorated either by modifying the severity or by diminishing the number of paroxysms. In many both the severity and number of paroxysms may be favorably influenced. 2. Remedies, sedative in character, with fresh air, furnish the best results. 3. If a remedy is to be of service its beneficial effects will be noticed within twenty-four hours, and always within forty-eight. 4. The best results are obtained when the antipyrin and bromid are commenced at the height of the paroxysmal stage, and then pushed. 5. These remedies being sedative in character, the effect may be lost in a prolonged case, requiring a change of treatment. 6. Children may have whooping-cough and never whoop.

99. **Subnormal Temperature.**—Three cases of subnormal temperature in the insane are reported by Tomlinson; one was a terminal dement in an agitated and depressed condition, and the pulse fell to 94, at which point it remained for nearly a month. During this time he passed into a condition of profound urinemia with extreme emaciation. The second case was that of a woman in whom the temperature went below the scale of the thermometer, and as nearly as could be estimated was about 90 F. after a spell of violent agitation. It arose to 108 F. at the time of her death. In the third case, one of terminal dementia, the temperature was subnormal during the greater part of a year, going as low as 88 F. just before death. In all these cases there was kidney disorder, and he remarks that in [illegible] his case records he finds subnormal temperature [illegible] present in cases of uncomplicated degenera[illegible] kidneys, and he associates the two conditio[illegible]

[illegible] **Gynecolo[illegible]** [illegible] reports a largenumber of additional cases of gynecologic operations on insane women, insisting on his former views of the necessity of such measures and their value.

108. **Diseases of Digestive Tract.**—Power believes that the clinical examination of gastric contents is too much neglected, and as an evidence gives the results of examination of 25,000 prescriptions found in California drug stores. They gave no evidence of the present state of knowledge of hyperchlorhydria, and many of them were rather inconsistent and futile. The small use of intestinal disinfectants was also notable.

116.—See abstract in The Journal of Nov. 25, 1899, p. 1360.

117.—Ibid.

120. **Pneumococcus Infection.**—Billings reports a case of general pneumococcus septicemia in a child, and others of localized pneumonia complicating otitis media, and also of general pneumococcus septicemia with little or no lung involvement. The cases are illustrated by temperature-curves.

121. **Induction of Premature Labor.**—The indications for the induction of premature labor are four: Contracted pelves, disorders incident to pregnancy, those which are accidental to pregnancy, and in certain cases where habitual death of the fetus occurs before term. In contracted pelves, De Lee objects to premature induction of labor combined with symphysiotomy, on account of the danger to the child. The question whether the patient will be allowed to go to term is a difficult one, and all the circumstances must be considered. The question must be laid before the mother and the dangers described, but the physician can sway the judgment of the patient as he thinks best, and should advise one of the graver operations at term only under the most favorable circumstances. As to the diseases incident to pregnancy, eclampsia is first considered, and his teaching is that treatment should be at first purely medical, but if in spite of this the convulsions increase and are more severe, the pregnancy should be interrupted, and if labor should be spontaneous, everything should be done to hasten it. If, however, medical treatment succeeds, he allows the patient to go to term under proper hygienic precautions. As a rule, the kidney of pregnancy does not produce dangerous symptoms, but it is hard to draw the line between it and Bright's disease. In placenta previa there is no expectant plan. As a rule the child is viable when the symptoms become marked. Induction of premature labor is demanded unless proper medical attendance can be had. Chorea aggravated by pregnancy may be a fatal disease. Premature labor not unfrequently occurs, but it may be too late. Pernicious anemia is a very fatal disease during pregnancy, and often premature labor can not prevent death. Uncontrollable vomiting of pregnancy usually occurs before the child is viable, and the question is whether or not to induce abortion. Experience, he thinks, will show there is less and less cause for induction of premature labor in this condition. Early diagnosis and recognition of the condition will enable the physician to put the patient under the best possible surroundings and obviate the necessity. When the time does come when the condition is very serious a proper conscientious medical treatment should precede the operation. Among the accidental ones Bright's disease is the most common. When it is determined, the patient should be kept under constant observation and tided through if possible, but then the symptoms increase and eclampsia threatens, interference may be unavoidable. Ten days is the limit he gives for observation in these cases. Tuberculosis is a very difficult question, and tuberculous women should not bear children. Insanity does not justify the operation except in rare cases. Carcinoma, if confined to the cervix, does not indicate the induction of premature labor If carcinomatous disease is too far advanced to permit a radical cure, it is probably better to let the patient go to term and then do Porro's operation. Under the fourth general heading we have the indication, occasionally, but the cause can not be determined. In that case he treats the woman and sometimes the man for syphilis. As to the conditions for induction of premature labor, before the twenty-eighth week there is little chance for a living child and not much before the thirty-second. The child must be living and in good condition. the mother must be in good health or relatively so. The pelvic contraction must not be too great. Below 7 cm. in a flat pelvis and below 7.5 cm. in a generally contracted one it is not safe to induce labor. The consent of the mother and a consultation should always be insisted on. The dangers to the mother, except from sepsis and too great haste in delivery, are not great, and the outlook for the child is better since the incubator has been introduced. The best method is to dilate the cervix by means of rubber bags. It is safe, quick and convenient, provided it is done under proper precautions.

126. **Cancer of Uterus in Pregnancy.**—Johnston thinks that in cases where cancer appears before the fourth month of pregnancy, and is limited to the cervix, the indications are clear; the only consideration must be for the welfare of the mother, and we should act as in case of a non-pregnant uterus. When it appears after the fourth month and is still limited to the cervix, the safety of the mother and child should be the object, but if the disease advances too rapidly the child must be sacrificed. Here the responsibility is most serious. In the third group where, regardless of the stage of pregnancy the disease has extended beyond the cervix and is inoperable the child alone is to be considered. The mother should be carried to term if possible and delivery be performed by Cesarian section. Three cases are reported.

127. **Vaginal Douche.**—Stone insists on the importance of following Emmet's directions, that the douche should be prescribed by the physician only and he should direct the treatment. Sterilization of the syringe should not be overlooked and should be by boiling. Vaginal washes will never cure endometritis.

151. **Technique of Excision of Cervical Superior Ganglion.**—The operation of excision of the superior cervical ganglion for glaucoma has been performed a number of times and the technique is therefore of interest. Ball advises first an incision five inches in length, through the skin and superficial fascia and down to the vertebral column. The spinal accessory nerve is cut and the deep dissection must be done by blunt instruments or fingers. He opens the carotid sheath extensively, and follows the nerve downward to the point where the ganglion is located, and upward if necessary, in case the middle ganglion is absent. If this fails to differentiate the nerve he picks up the nerve separately and irritates it to watch the effect on the heart, so as to avoid dividing the pneumogastric by mistake. After identifying the nerve, the ganglion is separated to the base of the skull; the branches given off are cut and the the ganglion is held taut with the forceps while the operator places his left index finger under it and cuts it at the highest possible point, using strong, curved strabismus scissors. The excision is completed by severing the nerve-strand an inch below the ganglion. The closure of the wound is by superficial sutures.

165. **Smallpox.**—The Osborn treatment for smallpox, which has been previously noticed in The Journal in the abstract of a paper by Dr. Bibb, Saltillo, Mexico, consists in the external use of strong solution of corrosive sublimate. Stout reports a case in which he used this method with remarkable success. While at first somewhat incredulous of the universal applicability of this method, he has watched and noted all the reports, and has become a convert. The solution is innocuous on the skin, but should be kept from mucous surfaces, the eyes, nose, and throat. Here the spray of peroxid of hydrogen or a saturated solution of boric acid may be used.

FOREIGN.

British Medical Journal, April 7.

Practical Observations on Cancer of Breast. William Banks.—In this third lecture Banks first discusses the parasitic theory of cancer, reviewing the observations of Russell, Soudakewitch, Metchnikoff, Plimmer, Buchanan, Monsarrat, Sanfelice and others, and the impression which he obtained from a study of the subject he notes in substance as follows: 1. *There is plainly a structure found in man at the marginal or growing edges of carcinomata.* It is not found in other neoplasms except sarcoma. This used to be considered a protozoon, but is now generally thought to be a form of saccharomyces reckoned to be a development stage of certain fungi. Most of the parasites are inside the epithelial cancer cells;

some are outside. How they get there is not known, but it is undoubted that cultivations from these in certain media can be made, and when injected into animals produce a fatal growth containing the same parasites. Sanfelice claims he can produce the same results by injection of blastomyces obtained from a fruit juice, and furthermore that by passing the parasites through a series of animals can produce an adenocarcinoma. And yet there is no clear and indisputable proof of the infectivity of cancer, and rash assertions as to this point can not be justified. On the other hand, the possibility of this infectivity must not be lightly treated in view of the information obtained of late years in regard to this parasite and certain of its properties. The present is not the time for positive assertion, but for careful experimentation and collection of facts. As regards the operative treatment, he claims that in 1877 he advocated a more thorough extirpation of the axillary glands as well as the breast, which was endorsed by Prof. S. W. Gross, in 1880. His views were rejected by Butlin, but Halsted's work has since demonstrated their correctness. He sees, however, nothing new in Halsted's method, excepting what he himself considers superfluous, and sarcastically says that it seems a pity that Halsted did not recommend, while he was about it, the extirpation of the liver and lungs. Banks sees no use in the removal of the pectoral muscles and thinks that when the cancer has reached the supraclavicular glands it is past extirpation. The work of Heidenhain and Stiles is noticed, but he does not think that they have done anything to especially influence the views of men as to eradication of mammary cancer, and it is rather hard that certain surgeons should date the origin of modern operative treatment of cancer from the microscopic researches of Heidenhain and Stiles, and the labors of Halsted and themselves.

The Lancet, April 7.

Remarks on Physical Signs of Pulmonary Disease. P. H. Pye-Smith.—In these remarks on auscultation and percussion, the author thinks these methods have suffered from over-refinement and too nice distinctions. There is no special "quality" of tone or timbre peculiar to the liver or spleen, the muscles, the heart or the solidified lung. Special terms, such as "Skodaic" resonance, "tympanitic dulness," "flat" or "empty" percussion are undefinable and contradictory or tautologic. The practice of auscultation has suffered even more than has that of percussion, from needless refinements, inaccurate language and vainly descriptive or fanciful metaphoric terms. He discusses the character of breath signs, râles, etc., at length, pointing out where he thinks valid differences exist. He specially notes the musical quality of certain râles as distinguished from others. What he calls nonmusical râles always imply a spongy condition of the lung, whereas râles with tone —consonating or crepitant—always point to solidification of the lung, the only exception being where they are rendered musical by bubbles bursting in a large cavity filled with air. He does not think a râle the sign of pulmonary edema.

The Practitioner (London), April.

Some Remarks on Digitalis Treatment in Chronic Disorders of the Circulation, and Especially on Continuous Use of Digitalis. J. Groedel.—Groedel is a strong advocate of digitalis, and reviews the alleged objections to its continuous use. 1. The cumulative effects are due to too large doses or where, when by continuous and somewhat large doses, we seek to produce an effect for which we have to wait longer than usual. He does not consider these usually dangerous, but still they are warnings, especially in cases where the pulse becomes irregular after only small doses, showing the idiosyncrasy. If we watch the diuresis and find it increased, we can have recourse to digitalis administered in small doses without fear of cumulative effects. He emphatically contradicts the charge that the drug causes a rapid decline of strength and wasting of the tissue. Another objection that it produces a tolerance of the drug is only true, he says to a very limited extent. He has no fear of it becoming injurious in this way. The results of experiments by Van der Heiden, as far as we can apply them are not unfavorable to protracted use of digitalis given about once in twenty-four hours. The general indication for its use is in those cases where we can not longer produce the lasting compensation by repose, baths, gymnastics or even a short course of medicine. The special indications are mitral insufficiency, when no contraindications are present such as tension of the blood-vessels, heart disease from overexertion, and slight fatty degeneration resulting from alcohol and tobacco where it may be also curative. In these last cases it is often better to alternate it a week at a time, with some other remedy. In purely nervous disorders of the heart it is useless. In arteriosclerosis it is only of value in the last stage when high vascular tension has passed away, and the same is true as regards disordered circulation is chronic nephritis. He does not advise it in these cases, though he obtained advantage from it in one. In all chronic disorders of the circulation he abstains from it as long as possible, using dietetic and physical means first; it is only when these fail that he resorts to the drug.

Palliative Treatment of Paralysis Agitans. R. T. Williamson.—While paralysis agitans it not a curable disease, much can be done to palliate its symptoms, and it is important that the patient should lead a quiet life and have as little mental excitement and worry as possible. Alcohol drinks and strong tea and coffee should be avoided, and life in the open air is recommended as far as practicable. Railway journeys and riding often relieve the symptoms for a time. Special stress is laid by Williamson on preventing the patient going about alone in the late stages, especially after walking has become difficult, as fatal accidents are liable to occur. The only drug that he has found to be of real service is hydrobromate of hyoscin, which he gives in doses of 1/75 gr. in 2 drams of chloroform water. It does not stop the tremors, but it diminishes the general restlessness. In beginning its use it is well to be cautious and not give more than from 1/50 to 1/100 gr. and watch its effects as it is increased. Hyoscin is of great service in the sleeplessness which is so troublesome sometimes. Another little point mentioned that the bed should not be too soft as it would increase the difficulty the patient has in turning over in bed to relieve himself from being too long in one position.

Havana Medica, March.

Peptonuria in Yellow Fever. E. Edelmann.—The renal lesions in yellow fever, according to Edelmann, are invariably the same as in Bright's disease, but the fever and effect of the toxins on the central nervous system materially increase the toxicity of the urine. He has been vainly trying to isolate an alkaloid from this urine resembling the yellow fever toxin by its biochemical properties, but he has succeeded in precipitating all the albumin in the urine. Treated with Millon's reagent, after filtration, a remarkable amount of peptones were precipitated, and he is now studying their biochemic action.

Progreso Medico (Havana), March.

Connection Between Bacillus Icteroides and Yellow Fever. A. Agramonte.—The writer's extensive personal experience and the results of considerable experimental research force the conclusions on him that the agent of yellow fever is still undiscovered, and that new methods of research and new culture-media are necessary for the task. Also that the bacillus icteroides has no more connection with yellow fever than the bacillus coli, which is found in most cultures derived from cadavers. The bacillus icteroides is not found in the blood of yellow fever patients, while it has been found in persons with no indications of the disease. Other arguments against icteroides are its failure to produce specific agglutination and the fact that serum from convalescents from yellow fever does not protect against infection with the bacillus icteroides.

Gazzetta degli Ospedale (Milan), March 25.

"Combined" Method of Hysterectomy. E. Truzzi.—In his inaugural address, on assuming the chair of gynecology at Padua, left vacant by Inverardi's death, Truzzi proclaimed anew the remarkable success invariably attained with his combined method of hysterectomy. He first opens the abdomen, the patient in the Trendelenburg, and liberates all adhesions between uterus, omentum, appendix and intestines, the uterus held with forceps. The infundibulo-pelvic and round ligaments are then divided between ligatures. The abdomen is then closed, the whole intervention thus far rapid and restricted to isolating the uterus and annexes. The patient is then placed in the gynecology position and uterus and annexes are removed through the vagina after ligature of the uterine. By this means the adhesions are detached from below upward, a great advantage in freeing the annexes, and pus collections are evacuated downward through the vagina. Another advantage is the impossibility of lacerations of the round and other ligaments.

Sublimate in Treatment of Tuberculosis of Bones and Joints. Silvestri.—Three years ago Capparoni urged others to adopt his method of treating surgical tuberculosis with a daily subcutaneous injection of 1 cg. of corrosive sublimate, with which he had been very successful, especially in Pott's disease. Silvestri describes several observations in which the improvement after these injections was so unfailing and so prompt that it must certainly be ascribed to them.

Syphilis Possibly Acquired from Latent Inherited Infection in Another. F. Zagato.—An instance is related of a young married couple from distinguished families, both husband and wife of high moral character and apparently perfect physique, an ideal love match in every respect. Two months after marriage coitus, before the menstrual period had quite finished, resulted in a slight excoriation of the penis from which a typical syphiloma developed, followed by the classic syndrome of syphilis, requiring specific treatment for several years before the youth and fine constitution of the man finally conquered it. The most searching investigation failed to disclose the slightest clue for the infection, except a record of possible syphilis in the young woman's father and four abortions preceding her birth. The young husband refrained from intercourse with his wife until completely cured, and she has never shown any signs of syphilis at any time. A child has been born to them since, the picture of health. Is it possible, Zagato queries, that inherited syphilitic infection could have remained latent in the young wife, and becoming exceptionally virulent in the menstrual discharge at one time, have infected the husband?

Annales de Dermatologie (Paris), February and March.

Clinical and Bacteriologic Study of Impetigo. R. Sabouraud.—In this profusely illustrated article Sabouraud announces that he has succeeded in demonstrating that the impetigo contagiosa of Tilbury Fox is in fact a chronic streptococcus dermatitis, contagious, autoinoculable, the microbe streptococcus constantly found in it from first to last. It is the same affection and the same lesion which may assume an ulcerous form and become ecthyma. Almost all the lesions of the impetigo contagiosa of Tilbury Fox may become secondarily infected with the staphylococcus and suppurate, but this suppurating stage is extrinsic and does not form an integral part of the affection. The staphylococcus aureus flourishing in the streptococcic phlyctenæ may cause, between the lesions of the impetigo, pustulizations exclusively staphylococcic and entirely independent of the streptococcus. As the affection becomes chronic, a period of eczematization and lichenization ensues, in which Sabouraud has traced the streptococcus by means of cultures with ascites serum and neutral bouillon. He states that the discovery of the streptococcus in this affection opens several new chapters in what have hitherto been called amicrobian cutaneous lesions. "Certain affections now classed with chronic eczemas are in reality verified streptococcus dermatites. It is amazing that the streptococcus has escaped discovery so long."

The Eczema Question. L. Brocq.—This important study is continued through 138 more pages and presents the history of the question in all its phases. Brocq restricts the term eczema to the affection characterized by vesiculation, pronounced and leading to oozing, or aborted, almost exclusively histologic, and terminating merely—from the objective point of view—in the formation of a tiny rounded crust. The redness, desquamation, lichenification, etc., are not essential to the process. He, therefore, refuses the title of eczema to Hebra's prurigo, impetigo and the numerous other affections which Unna has classed as eczemas. The pure objective forms of eczema, he adds, are rare. They are the prototypes, the elementary lesions, and they do not seem to depend on a single, pure pathogenic causes, always the same. Hence results the great difficulty in determining the definite types in eczemas, although a satisfactory compromise may be effected by combining the "etiologic dominant" and the objective form. These are the pure eczemas. The combination of these pure forms constitutes the compound eczemas, and there are besides, the complicated eczemas in which the pure complicates or is complicated by some other dermatosis or dermatoses.

Reflections on Syphilis. C. Audry.—The importance of early, prolonged, systematic treatment of syphilis with no regard to the manifestations of the moment, is the conclusion imposed by Audry's conception of the disease. He considers it a relapsing, generalized vascularitis, due to a primary infection of the blood.

Annales de l'Institut Pasteur (Paris), February 25.

Action of Certain Renal Poisons. W. Lindemann.—In the course of the experimental research reported from Metschnikoff's laboratory, guinea-pigs were inoculated with an emulsion of rabbit kidneys, killing them in three to five days with symptons of uremia and lesions in the kidneys identical with those produced by true renal poisons. This nephrolytic serum in its action resembles the hemolytic sera Metschnikoff has recently described. Its action is probably due to certain specific substances which are formed in the blood under the influence of the process of absorption of the kidney substance, these evidently affecting the kidney.

Semaine Medicale (Paris), March 21 and 28.

Complicated Varieties of Pneumonia in Children. Marfan.—Among the complications noted in children are pneumococcus otitis and peritonitis. The effusion with pleurisy is usually purulent under 5 years of age, and is sometimes complicated with suppurative endocarditis, almost always fatal. Pneumonia in children is occasionally accompanied with a rash and subsequent desquamation, resembling the eruption of scarlet fever. It may be initial or tardy but never lasts over forty-eight hours, and appears on the trunk, neck, etc., never on the palms or soles. There may be delirium, convulsions, stiffness of the back of the neck and Kernig's sign, as in an observation he describes in detail, which commenced with the rash, headache, vomiting and extreme agitation. Some writers have described a cerebral pneumonia, eclamptic in children under 30 months and meningitic in those from 2 to 6 years, with coma, and delirium above 6. Delirium in children with pneumonia is chiefly at night and intermittent. This cerebral pneumonia is not so regular in its course as the ordinary variety. It may last longer and the crisis occurs more gradually. It is more serious and, when death ensues, it seems to be due to the nervous accidents. In differentiating pneumonia in these cases it is well to remember that convulsions from a serious intracranial lesion are followed by severe and continuous nervous symptoms, which are absent in the "meningism" of acute disease, especially pneumonia. The torpor in the coma is less pronounced than with actual meningitic or cerebral lesions. The child can usually be aroused by speaking sharply to it. A very high temperature, continuous or subcontinuous, with slight morning remissions, suggests that the cerebral accidents may be due to pneumonia. Lumbar puncture will assist in clearing up the diagnosis and may relieve the patient. Children usually recover from pneumonia. Marfan applies wet cups or leeches to the affected side below the nipple, with fluid foods and drinks in abundance, and a potion of acetate of ammonia. In severe cases he orders a tepid or coolish bath or packs the thorax or trunk for an hour at a time, several times a day, with a napkin wrung out of cold water, covered airtight. Chloral for eclampsia; brandy for cardiac asthenia, 4 or 5 gms. for each year of the age, very much diluted, is given; in case of necessity, caffein or ether, mustard baths and inhalation of oxygen.

Fleshy Consumptives. G. Lemoine.—Emaciation is considered one of the chief features of the clinical picture of phthisis, but Lemoine states that tuberculosis developing on an arthritic foundation may progress without causing loss of flesh. The subject appears strong and well, appetite is good; curable consumptives usually belong to this class. The disease presents the same picture in scrofulous as in arthritic patients. The course of the disease is extremely slow and gradual. There is comparative weakness, cough and expectoration, but aside from this, the general health is good and the subjects continue their occupations. Hemorrhages may occur, but they are brief and the tendency to congestion seems to favor the healing of the tuberculous lesions, which may become encysted and circumscribed. The patient may gain in weight with appropriate hygiene, even in case of quite extensive cavities. They usually at last succumb to a fulminating hemorrhage or some acute secondary pulmonary affection. Others gradually lose their *embonpoint* as the cavities extend, and die emaciated.

Berliner Klinische Wochenschrift, March 12, 19 and 26.

Cause and Treatment of Fissura Ani. O. Rosenbach.—Persons with a tendency to abnormal conditions of circulation in the abdomen, from nervous or inflammatory causes or irritations in the domain of the sexual organs, are liable to have the excitability or innervation of the bladder and rectal sphincters become abnormal in turn, and if the functions of the bowels are not kept in good order, or the irritating causes removed, accumulations of hard fecal masses, or foreign bodies, grape stones etc., in the rectum may produce an acute or chronic disturbance in its functions, thus setting up a *circulus vitiosus* of motor innervation and circulation anomalies. The most prominent symptom of such a condition is the cramp of the sphincter ani, and the false desires for defecation leading to straining which aggravates the arterial and venous congestion, until all desire for defecation is resisted and a paradoxical innervation results with permanent functional disturbances and painful contraction of the sphincter. The treatment is principally psychic. The circumstances must be explained to the patient as his energetic co-operation is indispensable to accomplish a cure in the simplest way without narcosis or operation. He must control his will, to allow the anus to be touched and allow light massage and dilatation of the sphincter with his own finger, as the dentist's patient resigns himself to the pain of having a tooth filled. Each time the pain is less and he will find that he can insert his finger more and more readily. The manipulations must be thorough and repeated two or three times, at intervals, five or six times during the twenty-four hours. Mild purgatives are given later to keep the bowel functions in good order. After one daily evacuation the desire for defecation must be resisted. Inserting the finger will relieve the desire or prove its justification. Rosenbach some time ago called attention to the psychic benefits of the stomach pump and sound in nervous dyspepsia, and states that this psychic treatment of fissure of the anus has proved remarkably successful in his experience. He gives 1 cg. of morphin in the evening or early morning, in exceptionally painful cases. At this dose it influences favorably the internal tonus of the muscle and promotes defecation.

Tuberculin in Early Diagnosis of Tuberculosis. B. Fraenkel.—Tuberculin has no affinity for any but tuberculous tissue, Fraenkel observes, and its absolute harmlessness, and the important information derived in dubious cases, renders the tuberculin test a valuable adjunct in diagnosing. It is especially important in differentiating tuberculosis, carcinoma and syphilis, and in "surgical" tuberculosis. Tuberculous glandular affections give a typical local reaction.

Diagnosis and Therapeutic Significance of Tubercle Bacilli and Other Bacteria in Sputa. L. Brieger.—"The stomach of a tuberculous subject is his best friend, but his mouth is a traitor, sheltering his deadliest enemies, who may at any moment transform a simple tuberculous lesion into a fatal phthisis." The care of the mouth in tuberculosis, Brieger says, is a most important prophylactic measure that should never be neglected. He attributes the success of creosote, inhalations, ozone and hydrotherapy to their action on the secondary infections, as they have very little effect on the tubercle bacillus. The fever he ascribes to mixed infection; strictly local tuberculosis is afebrile. Hectic fever shows the "streptococcus curve," and this stage of phthisis pulmonalis is a chronic sepsis. The staphylococcus may cause an "aspiration pneumonia." The influenza bacillus fans the flame of the tuberculous process and may induce suppurating inflammation of the still intact portions of the lungs, to which is due the high mortality among the tuberculous in an epidemic of la grippe. This bacillus has also been found snugly ensconced as a harmless saprophyte in open tuberculous cavities where it may vegetate for years, a constant menace to its host and to others. Mixed infection may also remain latent in tuberculous subjects.

Diagnostic and Prognostic Significance of Diazo Reaction in Tuberculosis. M. Michaelis.—The importance of the diazo reaction for the prognosis of tuberculosis is emphatically demonstrated by the following statistics of 67 cases tested at the Berlin Charité. Of the patients with negative diazo reaction, 5 were cured; positive, 0. Improved: negative, 44; positive, 15. Unaffected by treatment: negative, 5; positive, 13. Died: negative, 3; positive, 80. Michaelis and Brieger would exclude tuberculous subjects with positive diazo reaction from public sanatoria. Schroeder has also recently stated that two-thirds of all his patients with positive diazo reaction died within three months.

Etiology and Treatment of Ozena. Noebel.—In 79 cases out of 111 of typical ozena with the triad of scabs, fetor and atrophy, Noebel was able to establish the existence of an empyema in the frontal sinus in 6; in the antrum of Highmore in 39; in the ethmoidal cells in 10; and in the sphenoidal sinus in 24. The remaining cases were under too brief observation for discovery of the cause, but Noebel considers it beyond all question that by far the largest majority of cases of ozena are due to concealed empyema in an adjacent cavity, and that evacuation is the only treatment. When the cases reach the physician the affection has been of such long standing that the primary cause has hitherto always been systematically overlooked.

Monatschrift f. Prakt. Dermatologie (Hamburg), Jan., Feb. and March.

Staining Elastin and Elacin. F. Krzysztalowicz.—This essay won the prize offered by Unna last year for the best treatment of the question of the specific character of the staining of elastin and elacin. It states that they take the usual stains alike and can only be differentiated by the Taenzer-Unna stain, which imparts a specific color to each. As the elastic fibers—elastin—become degenerated by age or climatic conditions, into the condition known as elacin, they change from acidophile to basophile. Preparations show very distinctly, treated with a basic stain and then with a solution of tannin and glycerin. In concluding the article states that kollastin is found in large quantities in the upper layers of the skin of young subjects, and seems to diminish with age. Elacin is found in young subjects in large quantities in the upper layers of the skin, and later develops in the lower, without being confined, however, to the papillary layer alone. Basophile collagen is also occasionally noted. The change known as kollacin does not join the rest until an advanced age.

Rapid Cure of Vascular Nevi in Infants. P. G. Unna.—It is astonishing, Unna states, with what ease these arterial angiomata or venous vascular nevi can be cured with prolonged gradual compression if applied in early infancy. Later it has no effect. He accomplishes this compression by painting the surface with a mixture of 1 part of ichthyol to 9 parts collodion, two or three times a day. The brown pellicle that forms compresses the nevus beneath until the rapidly growing surrounding tissues have caught up with the excessive growth of the angioma or nevus. The ichthyol collodion compression is also a rapid cure for insect bites as mentioned elsewhere.

Banish Linen. P. G. Unna.—One of the most annoying delusions of the lay mind is that old linen rags, old handkerchiefs, etc., should be used in applying salves, when in fact they are directly counterindicated. They soak up the salve, depriving the wound of all benefit from it, and transfer it to the clothing. Few patients ever apply the salve on cotton, which is much less absorbent of grease, and none ever think of covering the salve on the wound with a piece of woolen or flannel, or with the simplest of all, a piece of oiled silk or rubber tissue. Linen pillow cases and linen caps deprive the scalp of all benefits from the salves applied, and yet mothers will bring their children to the clinic in a linen cap every time. Bathing caps should be used and especially worn at night, as the pillow is a frequent source of renewed infection in scalp diseases. Linen should be completely banished, except possibly in simple hyperemic, edematou [illegible] neous affections, in which it is found more cool [illegible] substances. In moist affections the linen soa [illegible] uminous serum, dries, sticks and causes new lesions when it is pulled off.

Role of Nervous System in Skin Diseases. Leredde.—The pathogenesis of skin diseases has been completely revolutionized during the last twenty years, and the rôle ascribed to the nervous system is becoming more and more restricted. Zona is the only affection in which the arguments in favor of a dependence on the nervous system are convincing. Leredde reviews the history of the various skin diseases and shows that the nervous origin attributed to nearly all at some time, has been dropped for many, and the more we learn in regard to the mechanism of skin diseases, the more difficult it becomes to comprehend any direct action of the nervous system in lesions of the skin, especially those which have a regular course. On the other hand, the action of other causes, microbian alterations, alterations in the blood, etc., are becoming more and more probable, even in diseases in which they can not yet be scientifically demonstrated. The pathogenic rôle of the nervous system must be viewed from a different standpoint than heretofore. The skin is exposed to multiple causes of disease, and we will appreciate their action more and more, as we reject the theory that the nervous system can cause dermatoses. The evidence in favor of "trophoneuroses" and "dermatoneuroses" is far from convincing, and one skin disease after another has proved its independence of the nervous system.

Yolk of Egg as a Vehicle for Salves. P. G. Unna.—"The remarkable emulsifying properties of the yolk of egg have never been duly appreciated in dermatotherapeutic practice." This emulsifying power is most marked with balsamic substances, tar, ichthyol, etc. It has also another advantage for the treatment of cutaneous affections, as it forms a pellicle as it dries, and the large proportion of sulphur is another point in its favor. Unna recommends for the purpose twenty parts of yolk of egg to thirty parts almond oil, blended as for a salad dressing, and calls the mixture unguentum domesticum. He adds to this, as desired, ichthyol, balsam of Peru, sulphur, camphor, etc. (10 per cent.), sublimate (5 per cent.), etc. "Unguentum domesticum will be found useful."

Muenchener Medicinische Wochenschrift, April 3.

Causes of Climacteric Hemorrhages. A. Theilhaber.—The abnormal behavior of the musculature of the uterus is the cause of the hemorrhage in the great majority of cases, according to Theilhaber. He has noticed that the non-pregnant and non-puerperal uterus is normally moderately contracted. It is usually relaxed during the height of the menses, and the hyperemia and hemorrhage are gradually arrested by the return to its condition of moderate contraction. If the latter is insufficient, the hyperemia continues and the organ may swell, but, with or without the latter, long protracted menorrhagia may follow. In the post-climacteric period the musculature of the uterus becomes atrophied and partially substituted by connective tissue. This atrophy is gradual; the menopause is not a sudden process, and it is usually accompanied by more or less pronounced stenosis of the vessels, so that the bleeding is not excessive even when contraction is insufficient. But if the muscular atrophy sets in before the stenosis of the vessels, the musculature is unable to control the hyperemia and congestion, and menorrhagia follows, sometimes with edema of the organ, and thickening of the walls. The same cause—atony of the uterine muscle—will explain the "essential uterine hemorrhages" in young girls, in whom the musculature has not attained its full development; also in chlorotics, phthisics and convalescents from severe febrile diseases, in whom the musculature is weak. The same explanation applies also to the menorrhagia appearing before the menopause in women with myomata, which have never before interfered with menstruation. The functioning capacity of the uterine musculature is much reduced in a myomatous uterus and, when the rest of the musculature begins to atrophy, the menstrual hyperemia is prolonged, hyperemia of the mucosa follows, and subsequently endometritis fungosa and its accompanying menorrhagia. The excessive hyperemia may also start the myoma to more rapid growth, and as the surrounding tissue atrophies it may become polypous, pedunculated.

Epileptic Equivalents. E. Schultze.—Among the equivalents of epileptic seizures described is a periodical paralysis of the abducens, an impulse to travel, to do immodest acts, a periodical paralysis of the trigeminus, etc. Schultze, in analyzing them and others in literature, has become more and more convinced that epileptic seizures or their equivalents may occur without any disturbance in the consciousness. Donath has also recently described three observations of poriomania or epileptic impulse to wander, which he considers a psychic equivalent of an epileptic seizure.

Embolism of Mesenterial Arteries. Ott.—The symptoms characteristic of this rare occurrence, embolism of the mesenterial arteries, are intestinal hemorrhage, falling temperature, colics, tympanism, evidences of an effusion in the abdominal cavity, embolisms in other vascular regions and palpation of sacs of blood between the sheets of the mesentery. Ott describes two typical cases, one with previous mitral insufficiency, chronic nephritis and emphysema of the lungs. The defective action of the heart suggested a cause for the embolism and a chill, fever, much edema of the lower extremities, and evidences of infarct formation in the lungs, associated with the symptoms above, rendered the diagnosis of embolism of the mesenterial arteries more than probable, and the prompt administration of digitalis and camphor restored the patient to comparative health by raising the arterial pressure and forcing the obstruction along to a less dangerous point, or breaking it up and distributing it to remote vessels. The intestinal hemorrhage in the second case was the almost alarming symptom; fully a quart of blood was lost the first day. The treatment indicated was the reverse of the first: a little sherry was given, ice was applied to the abdomen and the rectum was tamponned, as high as possible, after morphin to arrest peristalsis. Prompt recovery followed. The patient had applied for treatment of hemiplegia when the syndrome of embolism in the mesenterial artery suddenly appeared, although no evidences of embolism elsewhere could be discovered, nor any cause for it.

A Trip Through the Russian Starvation Districts. C. A. Lehmann.—The writer reports that the Russian peasantry are diseased through and through in the numerous regions he visited: Scorbutus among the starving, and spotted typhus in all classes every year until May, with syphilis, trachoma, tuberculosis and malaria extremely prevalent, and large numbers of cases of dysentery, anemia, abdominal typhus, anthrax, erysipelas, echinococcus of the liver, etc., and epidemics of measles, scarlet fever and diphtheria. The Russian peasant is generally considered robust, but this impression is false and partially due to his endurance: he works till he drops. The peasant huts have been deprived of their thatch to feed the starving animals, and many are roofless, several families gathering into one hut, with domestic animals, all in one room, never aired, lighted with a small window, and "heated black" in the winter, that is, stopping the chimney to keep the smoke in. In the hundreds of huts the writer entered he never failed to find the walls and floor swarming with roaches. In the district of Kasan, the number of cases of scorbutus among the starving was estimated at 20,000. The symptoms differ from the classic picture, although gingivitis, cramps and hemorrhages were usually associated. Sometimes in young subjects the only symptom is a lesion of the gums, which develops until the entire mouth becomes a fetid suppurating cavity. The subjective depression is extreme. Strong men lie groaning, praying for death to end their sufferings. The pulse and thoracic organs seemed normal, but nephritis was frequent. The disease does not seem contagious. Good food promptly effected a cure; without it recurrence was the rule. One of the officials informed Lehmann that nearly every woman has some gynecologic trouble and hysteria, and that the children die off like flies. In these remote districts there is one physician to 32,933 inhabitants on an average. The smallest proportion is one to 13,387; and the largest, one to 69,288. These physicians receive a modest stipend from the authorities, and Lehmann expresses much admiration for their sympathy and devotion and their thorough scientific training, fully abreast with modern ideas. All are well equipped with microscopes and reagents.

Societies.

COMING MEETINGS.

American Medical Association, Atlantic City, N. J., June 5-8.

American Proctologic Society, Washington, D. C., May 2 and 3.

Illinois State Medical Society, Springfield, May 15-17.

American Medico-Psychological Association, Richmond, Va., May 1.

American Association of Anatomists, Washington, D. C., May 1-3.

American Association of Genito-Urinary Surgeons, Washington, D. C., May 1-3.

American Laryngological Association, Washington, D. C., May 1-3.

American Surgical Association, Washington, D. C., May 1-3.

American Association of Physicians, Washington, D. C., May 1-3.

American Climatological Association, Washington, D. C., May 1-3.

American Dermatological Association, Washington, D. C., May 1-3.

American Orthopedic Association, Washington, D. C., May 1-3.

Arizona Medical Association, Prescott, May 2-3.

American Gynecological Association, Washington, D. C., May 4-6.

Medical Society of State of North Carolina, Torboro, May 5.

American Pediatric Association, Washington, D. C., May 7-9.

Ohio State Pediatric Society, Columbus, May 8.

Nebraska State Medical Society, Omaha, May 8-10.

Washington State Medical Society, Spokane, May 8-9.

Oklahoma Territory Medical Society, Oklahoma City, May 9.

Ohio State Medical Society, Columbus, May 9-11.

Kentucky State Medical Society, Georgetown, May 9-11.

Medical Association of State of Missouri, Mexico, May 15-17.

Medical Association of Montana, Butte, May 16.

Iowa State Medical Society, Des Moines, May 16-18.

Arkansas Medical Society, Jonesboro, May 14-16.

Connecticut State Medical Society, New Haven, May 23-24.

Association of Military Surgeons of the United States, New York City, May 31 to June 2.

North Dakota State Medical Society, Grand Forks, May 23-24.

Indiana State Medical Society, Anderson, May 24-25.

New Hampshire Medical Society, Concord, May 31 and June 1.

German Neurologists and Alienists of the Southwest.—The date of this Congress is May 26 and 27, at Baden Baden.

German Otologic Association.—The ninth annual meeting of this Association will be held at Heidelberg, June 1 and 2. For particulars apply to Dr. Siebenmann, Basel, Switzerland.

San Diego County Medical Society.—At the annual meeting of this Society, held recently, the following officers were elected: president, R. L. Doig; vice-president, D. Gochenauer; and secretary and treasurer, T. L. Magee.

Wells County Medical Society.—This Society held a meeting in Bluffton, Ind., April 10. The newly-elected officers are: president, Brose S. Horne, Bluffton; vice-president, L. Mason, Bluffton; secretary, S. A. Shoemaker, Poneto; treasurer, C. L. Blue, Tocsin.

Cumberland District Medical Society.—At the annual meeting, held at Bridgeton, N. J., April 11, the following officers were chosen: president, Frank M. Bateman, Cedarville; vice-president, H. G. Miller, Millville; secretary, J. C. Applegate, Bridgeton; treasurer, Joseph Tomlinson, Bridgeton.

Florida Medical Association.—The annual meeting of this Association for 1900 has just been held at Orlando, Fla., and W. L. Hughlett, of Cocoa, Fla., elected president. The next place of meeting will be Jacksonville, the second Wednesday in April, 1901. The secretary is J. D. Fernandez, Jacksonville.

Tennessee State Medical Society.—The annual session of this Society has just closed, at Knoxville, Tenn. Next year the Society will meet in Nashville. The newly-elected officers are: president, Jere A. Crook, Jackson; vice-president for East Tennessee, B. D. Bosworth, Knoxville; vice-president for Middle Tennessee, R. E. Fort, Nashville; vice-president for West Tennessee, J. Richmond, Memphis; Secretary, W. D. Haggard, Nashville (re-elected); treasurer, W. C. Bilbro, Murfreesboro.

International Congress of Medical Electrology and Radiology.—The following addresses are announced on the official program: "Bois-Reymond's Law," by Dubois of Berne; "General Indications for Galvanization and Faradization," by J. Althaus of London; "General Indications for Franklinization," by A. Tripier; "Electrotherapy and Suggestion," Eulenburg of Berlin; "Franklinization in the Treatment of Dermatoses," Chatzky, Moscow; "Electric Treatment of Neuralgia," Leduc, Nantes; "Electrolysis in Treatment of Uterine Fibromata," F. La Torre of Rome; "Physiologic and Therapeutic Properties of Currents of High Frequency and High Tension," Doumer of Lille; "Electric Syndrome of Facial Paralysis," Wertheim-Salomonson of Amsterdam; "Application of X-Ray in Dermatology," Schiff, Vienna; "Diagnosis of Thoracic Affections with X-Ray," Beclère, and "Physiologic and Therapeutic Properties of Ozone," Labbé. The membership fee, $5, should be sent to Dr. A. Moutier, rue Miromesnil 11, Paris; all other communications to the secretary, Prof. E. Doumer, rue Nicolas-Leblanc 57, Lille, France. The Congress is under the patronage of Benedikt, Erb, Kronecker, Roentgen, De Renzi, Solvay, Tigerstedt and five other well known specialists. (See The Journal, March 10, p. 620.)

Association of American Medical Colleges.—The next meeting of this Association will be held in the Hotel Shelbourne, in Atlantic City, N. J., June 4, 1900, the Monday preceding the meeting of the American Medical Association. The educational session will be opened at 2 p.m., with the following program: 1. The President's Address, by Parks Ritchie, Dean of the University of Minnesota, Minneapolis, Minn. 2. Methods of Clinical Instruction and the Management of Clinics, by Prof. F. C. Hotz, Professor of Ophthalmology in Rush Medical College, Chicago. 3. A Report on the Practical Operation of the Case System in Harvard Medical School during the past year, by W. D. Cannon, Cambridge, Mass. 4. The Library of Pathologic Specimens, by Gustav Fütterer, Chicago. 5. Report by the Committee on Elective Courses in Medical Schools. By John M. Dodson, M.D., Chairman, Chicago. According to the constitution of the Association all amendments to the constitution must be incorporated in the "Call." The following has been submitted by the Milwaukee Medical College, and is herewith presented to the members of the Association, that it may be acted on at the meeting: Amendment to Article 3 (Section 8).—"Colleges members of this Association, to remain in good standing, must not accept from any student a tuition fee less than that advertised by said college in its annual announcement for that year." Bayard Holmes, M.D., Secretary.

Chicago Ophthalmological and Otological Society.

March 13, 1900.

Dr. C. D. Wescott in the Chair.

TRAUMATIC CYCLITIS.

Dr. William A. Mann showed a patient who was hit in the eye by a chip from a block of wood, some five weeks before. The eye was greatly inflamed. Whether the anterior chamber is filled with blood or a blood clot, he could not say. He was inclined to the belief that there might be a dislocation of the lens. Vision is very defective in the injured eye, while in the other it is normal, and there is also normal accommodation. The tension in the injured eye is low. The patient does not complain of much pain, but the eye is very tender.

Dr. C. P. Pinckard said the injury must have been severe to keep the eye so greatly inflamed such a long time. He thought there might be a dislocation of the lens or fundus injury of some kind, although there is no way of determining it.

Dr. F. C. Hotz stated that a blow might cause considerable disturbance in the interior of the eyeball; that probably in this case there might be a dislocated [illegible] ocular hemorrhage would fill the whole eyeball. He thought the cornea presented the characteristic streaky condition observed in long-standing cases of traumatic cyclitis. In such conditions absorption of blood takes place very slowly.

Dr. W. A. Mann, in closing the discussion, said he believed the man had sustained a serious injury to the eye, consequently the prognosis was bad, but whether the condition would clear up or not, he did not know. The condition of the eye had not changed in the last two or three weeks, although the blood clot was possibly a little lighter in color.

EXTRACTION OF CONGENITALLY DISLOCATED OPAQUE LENSES.

Dr. Wm. H. Wilder reported a case of this condition.

DIABETIC RETINITIS.

Dr. W. H. Wilder presented a woman who came to him six or eight weeks ago, in whom he found some impairment of vision which could not be remedied with glasses. Examination revealed retinitis, which appeared to be diabetic in type. The patient was referred to him by a prominent physician who had made a diagnosis of diabetes. Since then the urine has been examined several times with no evidence of albumin. This is the third case he has seen. In some it is difficult to differentiate it from the ordinary retinitis of chronic Bright's disease. If there are any distinguishing features, it would be that the plaques of degeneration are not so symmetrically arranged around the yellow spots. In this case these plaques are situated in a zone around the optic disc, and there are quite as many to the nasal as to the temporal side, and numerous hemorrhages are present. The plaques of degeneration are usually large and do not present the white glistening appearance that is seen in typical cases of albuminuric retinitis.

Dr. O. Dodd said he had had the good fortune to see three cases of diabetic retinitis within a few months, two of which were pure diabetes, the other a mixed case. There is considerable dispute as to whether this form of retinitis is caused by nephritic changes, or whether it is due to blood changes on account of diabetes. About four years ago he consulted the literature in regard to this subject and found that there were only forty-six cases recorded of pure diabetic retinitis. The cases which he had seen were very much like the one of Dr. Wilder's in appearance. In one the diabetes had existed for nine years, in the other four, and the combined case of nephritis was one of long standing.

Dr. C. P. Pinckard saw a case of diabetic retinitis last summer in a woman, 65 years of age, who had had diabetes for many years. She had been treated in this country and in Europe with practically no benefit. Two months before he saw her she began to lose vision in one eye. The distribution of the degenerative plaques was somewhat similar to that noticed in Dr. Wilder's patient, that is, they seemed to be apparently more grouped around the nerve than the macula. The hemorrhages were far more abundant in his case and larger. The patient remained in Chicago for only a few months, and during that time no change took place. What ultimately happened he does not know, as the patient returned to the South.

PROFUSE RETROCHOROIDAL HEMORRHAGE AFTER IRIDECTOMY FOR CHRONIC GLAUCOMA.

Dr. F. C. Hotz reported this case. The hemorrhage occurred almost twenty-four hours after a perfectly smooth iridectomy for chronic glaucoma. The tension was only moderately high, the media were perfectly clear, and the opthalmoscopic examination did not reveal any alterations of the vessel walls in the fundus. The hemorrhage was ushered in by the same symptoms as those formidable hemorrhages which sometimes occur after a perfectly normal cataract operation.

The patient, Mrs. W., 63 years of age, anemic and nervous, had gradually lost the sight of her left eye during the preceding two years. One year ago an oculist pronounced her case glaucoma, but for some reason declined to operate, and prescribed daily instillations of eserin. When she first came to Dr. Hotz the pupil was contracted to the size of a pinhole, so as to render an ophthalmoscopic inspection impossible, but the tension was nevertheless decidedly increased. Four days later, Nov. 30, 1898, the pupil was still smaller than that of the right eye, which appeared normal in every respect; but a drop of cocain dilated it within a few minutes, without affecting the tension. There was a shallow anterior chamber, clear media and a typical glaucoma excavation, the margin of the disc showing H. 1 D and the floor of the excavation M. 3 D.; arteries small, veins slightly enlarged, no pulsation; vision reduced to perception of hand. Inasmuch as the sight of the eye was irretrievably lost and the patient had no marked discomfort, he saw no reason for urging an operation, and decided on watching the eye under the moderate and restricted use of eserin.

But when during December and January the patient repeatedly complained of attacks of pain in the eye and left side of the head, accompanied by an appreciable increase of tension, and when he learned from her physician that she was wearing herself out by constantly worrying about her eye, he thought an iridectomy was warranted in order to relieve the tension of the eye as well as the patient's mind. The operation was performed under chloroform at 2 p.m., Jan. 24, 1899; the excision of the iris was smooth and complete; there was no bleeding, and the tension was decidedly reduced. The patient recovered from the anesthetic without nausea, and passed a very comfortable night. During the morning she occasionally felt a darting pain in the eye; at noon she was suddenly taken with the most violent pain in the eye and head, accompanied by a nervous chill, nausea and vomiting. He was at once notified by telephone, and was at the bedside of the patient at 1 p.m. When he removed the bandage he found the lens on the dressing and half the vitreous outside of the wound, and when this was removed the rest of the vitreous was extruded with portions of the retina and choroid and clots of blood. The nausea and headache subsided within two hours, but the bleeding continued for three days. His first thought was to urge the immediate removal of the eye; but both her daughter and physician, fearing the most serious results from the shock such a proposition would have on the patient in her low nervous state, begged him to postpone the enucleation as long as in his judgment it might be done with safety for the other eye. He yielded to their entreaties, and under strict antiseptic dressings and the use of cocain the wound healed, and the blood within the eye was gradually absorbed, so that by the end of February the anterior chamber was clear and the iris plainly visible; the pupil and the coloboma were filled with a fibrinous membrane. The tension, which had been very low, gradually rose to nearly normal, and the tenderness of the eye slowly, but steadily, subsided. Since last May the eye has been free from redness and tenderness, perfectly comfortable, but it is somewhat reduced in size.

He has watched over the other eye with the greatest anxiety, and he is glad to state that up to this time its central vision, its field of vision, and the ophthalmoscope have not shown the least change from the first examination.

Dr. C. D. Wescott said he had an exact duplicate of the case reported by Dr. Hotz occur in his practice about a year ago. A patient who had consulted Dr. Holmes thirty years ago for traumatism of one eye, in which the sight was practically lost from a serious injury to the cornea, came back because the fellow eye was rapidly failing and had been for a year or more. The man was 72 years of age, of gouty diathesis, and showed general arteriosclerosis, the temporal artery being decidedly hard and firm. In that respect the case differed from that reported by Dr. Hotz. The tension was high, and on dilating the pupil with cocain he found there was beginning cataract and glaucoma. A moderate cupping of the disc could be seen through the clearer portions of the lens, but otherwise there were no changes in the vessels of the fundus to attract particular attention. Iridectomy was advised, with the hope of checking the glaucoma. The man was told that if this operation was successful the cataract would be extracted later, giving him better sight than would be possible in the other eye. Iridectomy was done under cocain and holocain anesthesia. There was practically no hemorrhage attending the operation. The morning following the operation the patient experienced considerable pain, and it was suspected that an atheromatous vessel had broken. On removing the dressing he found the wound distended by the cataractous lens. The lens with its capsule had come forward and was about one-third external to the wound. The patient was anesthetized with chloroform, and the lens was extracted without the loss of more than two or three minims of vitreous. The eye was dressed. As Dr. Wescott and Dr. Pusey were getting ready to leave the house, their attention was directed to a little stream of blood running from under the dressing down the temple. The dressing was removed, and it was found that the vitreous had practically escaped with some blood still flowing. The eye was in a condition for immediate enucleation. It was not thought best to give the patient chloroform again so quickly. The patient was asked to consider the operation and declined any further interference. The eye healed after some time, with moderate reaction, and perhaps two months after the accident Dr. Wescott saw him, when the eye was practically quiet.

Dr. J. E. Colburn said that in 1885-6 he had a glaucomatous pair of eyes to deal with. He operated on the right eye without accident, and secured a very good result. Some four weeks afterward he operated on the left eye, and on account of a little nervousness on the part of the patient he dragged the iris out a little farther than he intended, but aside from that the iridectomy was smooth. At the end of the third day the patient complained of severe pain, and he was sent for. He opened the dressing and found the lens in the anterior chamber; there had been extensive hemorrhage and the dressing was saturated with blood. A portion of the remains of the iris protruded with the hemorrhage, it having been forced down by the partially dislocated lens. Without any difficulty he removed the lens with his fingers, closed the wound, and the blood was absorbed. Four or five weeks later he snipped off a bit of iris which was protruding from the wound. He saw the patient about three years ago and the eye had not given any trouble from the time of the operation. The eye he operated on first was in good condition; the vision had materially improved, and there had been no return of the glaucomatous condition. This was eight or ten years after the first operation. He thought he would have to enucleate the eye in this case. There was perception of light in it, with rather opaque lacework crossing the artificial pupil; the iris was drawn somewhat downward, and as near as he could determine the blood clot had been entirely absorbed, leaving only little filaments of lacework in the opening.

In 1892 he operated on an old woman for cataract. The first eye gave him a very easy operation. In the second, which looked rather suspicious at the time of the operation on the first eye, he advised the removal of the lens, because it was hypermature and beginning to give disturbance. He removed the lens and during the night following the operation the contents of the eye was expelled. He thought it was much safer out than in because it was only a question of time when the eye would have given trouble anyway. He enucleated the eye in this case the morning following the operation.

Dr. F. C. Hotz says he had always considered an iridectomy in a case of chronic glaucoma as a comparatively easy operation, one which would not ordinarily give any trouble, but after hearing of accidents in such cases as had been reported, he thought differently. In the case reported by Dr. Colburn, the hemorrhage must have commenced in the anterior part of the choroid so as to crowd into the vitreous and the smaller vessels. But in the cases of Dr. Wescott and himself it must have been a good-sized vessel, rupturing with such force as to press the whole vitreous forward. He did not know whether the cases of Dr. Colburn were acute or chronic.

Dr. Colburn replied that they were chronic.

Dr. Hotz said that stress should be laid on the acute cases because in them hemorrhages were more likely to occur on account of the vessels being more engorged than in the slowly proceeding chronic ones. In his case he was told by the daughter of the patient that there were unmistakable signs of hemophilia in the family, although this could not be elicited in the history of the mother.

Dr. H. M. Starkey mentioned a case of chronic glaucoma that he had had under observation for several years, the patient having been seen by Dr. Mann with him. He found that spontaneous rupture of the eyeball with escape of the contents had taken place. The patient bled profusely. She had suffered terrific pain before the eyeball ruptured. The spontaneous hemorrhage occurred in the degenerated eye without any accident or without any violent exercise.

Dr. C. P. Pinckard asked whether the rupture occurred at a right angle to the sclerocorneal margin, or whether it was concentric with the cornea.

Dr. W. A. Mann said it occurred along the border of the iris in a concentric direction.

Dr. C. P. Pinckard reported a similar case of spontaneous rupture, saying that the night nurse was awakened by a scream from one of the wards; she went to see the patient, an old woman with chronic glaucoma, and found that spontaneous hemorrhage had taken place, the rupture having occurred near the sclerocorneal junction. It was not concentric, as one might expect it to be, but at a nearly right angle to the corneal margin. The Doctor enucleated the eye the next day.

THE INVENTION OF THE ALUMINUM BALL.

Dr. H. F. Coleman reported the following case:

About a year ago, Dr. Paul Walter called to ask my advice in regard to Mule's operation. I remarked that my experience was adverse to it, but if he wished to try the insertion of a ball, I would suggest that a perforated aluminum one be used, and it might be more safely inserted in Tenon's capsule than in the sclera. Some three months later the Doctor again called and reported that on May 15, last, he removed from Mrs. C., the left eye, which had been destroyed two years previously by an accident and had since continued to suppurate.

The conjunctiva was dissected back, the muscles picked up and ligated and the eye enucleated. This was followed by irrigation with one gallon of sublimate solution, 1-4000. An aluminum perforated ball that had been carefully disinfected was placed in Tenon's capsule, and the muscles, then the conjunctivæ were brought forward over the ball and stitched. Boric acid and formalin dressings were applied. Healing rapidly followed and was attended by very little reaction. Five weeks later a slight purulent discharge appeared. On examination the aluminum ball was found corroded, half of it having disintegrated, and it appeared like soft mud. The other half was much corroded. The remains of the ball were so adherent that in order to remove it, it was necessary to use the curette. By the use of disinfectants the eye healed in a few days, but during that time the patient suffered a good deal.

CYSTOID CICATRIZATION FOLLOWING CATARACT EXTRACTION, WITH PERIODICAL ESCAPE OF AQUEOUS.

Dr. Albert E. Bulson, Jr., Ft. Wayne, Ind., reported the following case:

Mr. H., aged 66 years, in excellent health, with mature senile cataract in the left eye, presented himself on Sept. 5, 1899, and five days later was operated on at Hope Hospital, linear extraction being performed. The operation was without incident, no hemorrhage of any consequence following the iridectomy, the lens being easily removed and apparently no cortical substance remaining. The usual precautions were observed in looking for possible tags of iris, pieces of capsule, clots of blood, and beads of vitreous that might be present between the lips of the wound to prevent proper healing, and with the usual aseptic dressing, consisting of a gauze pad and bandage over both eyes the patient was put to bed in what was considered first-class condition.

The dressings were not disturbed for thirty-six hours, and the eye not inspected for seventy-two after the operation, when it was found that the wound had not completely closed and aqueous was escaping through a small opening near the center of the original wound. Except for the delayed union of the wound there were no untoward symptoms and the dressings were reapplied, with quite firm pressure, and maintained for a period of three days, at the end of which time inspection showed that the wound had apparently closed.

Ten days after the operation the patient was allowed to have the eye uncovered, though wearing a moderately smoked glass for protection from bright light. At this time there was no evidence of inflammation and the wound gave every indication of having closed properly.

Nearly four weeks after the operation I was asked to visit the patient and make an examination of the eye, the report being that "something had happened." Inspection of the eye disclosed a partially collapsed cornea, with escape of aqueous through a minute opening near the center of the site of the wound made for extraction of the lens. There was no assignable cause for the accident, nor could I obtain a history of trauma. Examination with a magnifying glass disclosed no prolapse of iris or capsule.

The wound was carefully touched with tincture of iodin and a pressure bandage applied. At the end of three days, when the bandage was removed, the wound appeared perfectly closed. Four weeks later, or a little over two months after the original operation, there being no contraindication, glasses were adjusted and vision 20/40 obtained with +9D = C +2D. axis 10°.

The patient then resumed his avocation, that of "night man" at the office of an omnibus and hack line, and experienced no inconvenience nor discomfort pertaining to the eye until three months later when he reported that, while rubbing his eye something had "broken," allowing nearly a teaspoonful of clear liquid to run from the eye. Inspection of the eye disclosed a small fistulous opening at the site of the former fistulous opening, with aqueous escaping on the slightest pressure on the cornea. As on previous occasions, nothing could be seen protruding in the wound, though it was suspected that a remnant of capsule was probably responsible for the imperfect closure of the wound.

The lips of the wound were thoroughly rubbed with pure ichthyol and a pressure bandage applied. At the end of five days the fistulous opening appeared perfectly closed, and there being no evidence of inflammation or irritation the patient was allowed to resume regular work, but with due admonition regarding the liability of recurrence of trouble in consequence of trauma. From that time until this no indication of return of the trouble has put in an appearance, the eye is free from inflammation or irritation, and a test of the vision a few days ago showed that 20/40 is still maintained.

The interesting feature of the case is the fact that the fistulous opening has to all appearances perfectly closed on three occasions, and remained so for a considerable length of time, only to burst open later. There has been no marked ectatic condition of the conjunctiva, nor could increase of intraocular tension be detected at any time either before or after the operation. There had at no time been any evidence of inflammation such as would likely occur if a tag of iris had been imprisoned in the wound, and very fortunately there has been no septic infection of the wound, though there has been ample opportunity for such a complication. The question of recurrence of the trouble is one that time alone will settle, but if present indications may be judged the fistula is securely closed.

Omaha Medical Society.

TUBERCULAR MENINGITIS.

Dr. H. M. McClanahan discussed this topic from the medical side, and said that the first point of importance is that of a correct diagnosis, which is by no means easy. Many diseases simulate this one. Ordinary meningitis has a high temperature with marked symptoms, seen early and of rapid growth. In this form the conjunctival reflex is lost early; the secretion of the Meibomian glands is always profuse and the lids are glued together; the mental conditions are quite different and sudden in their access; the delirium is more active. The usual disease diagnosed improperly is typhoid fever; here the blood count and leucocytosis should assist in differentiating one from the other. Malarial fever can be eliminated by the use of quinin.

The prodromes of tubercular meningitis are very interesting and characteristic; they are always slow and of many days' duration, often thirty or forty; one of the early symptoms is a change in the mental state; the patient is peevish, irritable, dislikes are more pronounced, headache is complained of and becomes more and more severe, constipation is seen early and is permanent and can not be relieved; gastric crises often occur. The fact that you can secure no amelioration of the symptoms in general is, of itself, a means of diagnosis. The secondary symptoms are due to pressure. Somnolence goes on to stupor, spinal rigidity becomes a constant symptom, the tache cerebral is present but is not pathognomonic, the red line persists after the finger is drawn over the surface, and convulsions may occur if the patient is quite young.

As a rule, the disease is a secondary one, the focus being found in the bronchial glands.

Since the disease is an incurable one, he can not understand why the surgeons do not operate when called in. They agree in the diagnosis, wish something might be done, but are too loath to operate. Twenty-three years ago, the great Gross humorously said: "I suppose we shall some day see specialists for the vermiform appendix." We now have them, and Dr. McClanahan hopes to see the day when the surgeon-specialists will operate and learn to save some of these patients with tubercular meningitis. We now save those with tubercular peritonitis, by operation, while, a short time ago, it was considered a hopeless condition. He thinks we should seek out the primary focus and operate boldly.

Dr. A. F. Jonas discussed the question from the standpoint of the surgeon. He said that he had thoroughly gone over the last twenty years of the *Annals of Surgery* and the *Am. Jour. of the Medical Sciences*, and found no reports of successes in the surgical treatment of this disease. Trephining has been done since 1800, for relief, but all results have been poor. There was slight revival on the advent of antiseptic surgery, but with little or no improvement. All operators speak of brain surgery in general as discouraging; the operations are not hard, but brain tissue regenerates slowly and imperfectly. If a functional center is involved, function is permanently lost. Linear craniectomy is a thing of the past. Tubercular meningitis is usually secondary to tuberculosis of the lungs, vertebræ, joints or the peritoneum. It is rarely primary. The ventricles are distended; the sutures enlarged in the young;. the miliary tubercles are usually found at the base, on the under side of the cerebellum; along the course of the circle of Willis, near the vessels. The exudate may be either serous or purulent, and is of moderate quantity. Sometimes the convexity of the brain is involved, which is indicative of a mixed infection. At times, the tubercles are small, while the exudate is large; in other cases, the reverse of this is true.

The patients are usually found to have been peevish at first. He feels that this is one of the most serious of diseases. It is an error to think that if the patient recovers, we have made an error in diagnosis. Tubercular meningitis, properly diagnosed, the diagnosis proved by lumbar puncture showing tubercular bacilli, has been followed by recovery. Tubercular disease can be of mild form in brain lesions as well as elsewhere. Lumbar puncture is the only method of relieving intercranial pressure; it is, however, only temporary and only useful for diagnostic purposes. We can not open the abdomen with the same degree of success as we can the abdominal cavity. The serum treatment seems to offer more hope for the future than any other. Surgeons do not like to operate in cases known to be hopeless. Surgery is unjustified in this class, according to our present knowledge. Irrigation is very ineffective, or entirely so, and this is also true of the use of iodoform emulsion. Of lumbar punctures, 80 per cent. have shown the tubercle bacilli, and yet the puncture was of no therapeutic value. The very nature of the exudate found shows the hopelessness of operative procedures. It is to be hoped that the future of operative work may be brighter, just as it has been in general surgery, even though the methods are very radical. The prognosis is not entirely hopeless; there is a long list of recoveries.

Dr. C. C. Allison said that the medical men had been the pioneers in the treatment of tubercular meningitis and, having met with no success, were perfectly willing to make the surgeons a present of their cases. He was not sure that the surgeons would accept the gift. The analogy between the surgical treatment of tubercular peritonitis and meningitis will not hold. In the one, we flush and drain, and meet with fair success; in the other, there is a much smaller surface capable of being reached. Flushing and drainage are, of necessity, much less thorough. He had operated on one patient who had a typical case excepting the lack of the proof of the bacillus; much improvement took place but the child died some months later.

Dr. W. O. Henry said that tuberculin ought to be used as a means of diagnosis, just as it is in cattle. Since operative measures are only of use in tubercular peritonitis, which is primary in character, analogy will teach us that they will only be effective in those minority cases of tubercular meningitis which are primary.

Dr. W. R. Lavender said that, as regards the differential diagnosis, it must be borne in mind that there are two varieties, the circumscribed and the general. The former often shows nothing macroscopically and very little microscopically; at the same time, it is very fatal. The general variety manifests itself in the pia mater and fissure of Sylvius. The vessels are soft, infiltrated, and thrombi are present; the lateral ventricles show soft masses and there is no obstruction to the flow of fluid in the spinal canal. This is just the opposite of the condition found in ordinary meningitis, in which there is obstruction to the flow of spinal fluid. Typhoid fever is so often the diagnosis erroneously made that we must always remember that in the fever we have a higher temperature; a slight irritability or none whatever of the patient; a dorsal decubitus; that the patient does not attempt to cover himself with the bed-clothes if they are pulled down; that we have tympanites and, later, an eruption. In gastro-enteritis, the vomiting is not the explosive, persistent form which we see in the brain lesion.

The blood in tubercular meningitis shows a slight increase of leucocytes filled with vacuoles; active ameboid movements; the red blood-corpuscles are of normal shape and tend to agglutinate; pigment is found among them; lumbar puncture, best made at the margin of the third lumbar vertebra, is the best possible method for differential diagnosis; the cover-slips may show the bacilli; if they are not seen here, inoculation of guinea-pigs or rabbits will develop them if present. This is the best test for them.

Dr. J. E. Summers, Jr., said that in his experience this disease is not always an acute one. It is usually secondary and often without prominent symptoms. The glands along the jugular vein are often involved. The head mirror may show pus in the Eustachian tubes. Middle-ear trouble is often responsible for it. He has never operated in hopeless cases, but feels that it might with propriety be done. He recalled that Gross reported, in 1883, eleven operations with recovery in 25 per cent.

Cleveland Medical Society.

Quarterly Meeting, March 26, 1900.

Presiding Officer—Dr. J. B. McGee, vice-president.

APPENDICITIS.

Dr. Robert T. Morris, of New York, addressed the Society on this topic. He said that if we were able to find a small focus of infection in every case of typhoid, or pneumonia, or scarlet fever, and if it could be readily recognized and removed there would be no discussion in regard to the advisability of removing it in order to save an individual from the suffering entailed by the disease. As appendicitis is such a disease, he thinks no one should be allowed to die from it without recourse to operation. He estimates that approximately 200,000 cases of appendicitis occur every year in the United States. The cause of infective appendicitis is anything that produces a break in the cells of the mucosa. This may be a concretion, or a sudden twist of the appendix, or the desquamation of the epithelium such as occurs in typhoid fever, in colitis or catarrhal infection of the intestinal mucosa. As soon as the mucosa swells there occurs an anemia due to compression of the blood-vessels, in consequence of which the leucocytes are able to reach the site of infection and combat it. After the attack the site of the ulceration contracts and closes the lumen of the appendix, thereby insuring further attacks of the disease. Behind this structure mucous inclusion occurs in nearly 80 per cent. of cases, while in about 12 per cent there are concretions.

In making the diagnosis few points need to be remembered, and the chief dependence should be placed on palpation. Rigidity of the abdominal muscles is a significant sign. As the progress of the infection can be promptly stopped by proper operation, it should be done as soon as the diagnosis is made. This reduces the death-rate, the suffering-rate and the loss-of-time-rate. In operating, a short incision is sufficient, no matter whether there are adhesions or not, so long as there is no pus inside the appendix, but every surgeon should make the incision as long as he needs for his best work. He advocates using hydrogen peroxid to blow out the pus. In treating cases of general septic peritonitis the indications are to remove the chief toxin-bearing fluid by washing out the pus from the pelvis through small incisions, washing out the cavity with several gallons of hot saline solution and then giving an intravenous injection of three or four pints of the same solution. He des not believe in the use of gauze packing or in handling the intestines. He noted that iodoform poisoning frequently occurs from the use of iodoform gauze in the abdominal cavity, and that it then passes for septicemia. In the latter condition, however, the wound does not look clean as it does in iodoform poisoning.

Dr. Hunter Robb said that in probably one-fifth of all cases of pelvic disease on which he had operated he had removed the appendix for associated disease of that organ. He had often found that in these cases where the appendix is extremely adherent to the surrounding structures no histologic change could be found in the structure of the organ. He had therefore concluded that some degree of appendicitis might arise apparently without infection of the lining epithelium. His own experience in operative work led him to indorse the opinion of Dr. Morris as to the disadvantage of using gauze drainage. In a series of twenty-nine consecutive cases in which there has been pus in the abdominal cavity, every case recovered, although drainage was not employed in a single case in any form. One explanation is that he found this pus free from bacteria.

Dr. L. B. Tuckerman asked what the essayist did with the multiple openings made for general peritonitis, as to whether he closed them all or whether any were left open for subsequent drainage.

Dr. O. B. Campbell asked whether the large majority of the successful series reported by the essayist would not also have recovered under medical treatment.

Dr. C. B. Parker emphasized the importance of the non-use of drainage in abdominal operations. For some time the only drainage that he has employed has been the ends of the ligatures used in closing the incision, thoroughly sterilized and twisted into a bundle and introduced into a small opening left in the incision.

Dr. A. F. House asked the essayist how he dealt with abscesses of which one wall was formed by the omentum and the other by the parietal peritoneum.

Dr. W. H. Humiston said that he is a believer in early operations in these cases, as many of them survive after a first attack only to have a second or third, during which there is much suffering and loss of time and increasing danger. He noted the fact that some years previously conditions at the City Hospital had compelled him to abandon drainage in pus cases previous to the publication of the article by Dr. Clark in which this practice was advocated.

Dr. F. E. Bunts said that he had give up the use of hydrogen peroxid because he found that after it had been employed it was nearly always possible to find some pus remaining. He is inclined to think that a pus cavity can best be treated by mopping it out with dry gauze and then washing it out with normal saline solution. He has noted that while it seemed better not to employ gauze drainage it was hardly true that collapse was avoided simply by placing gauze in the abdominal cavity. He thought that many of the serious symptoms following the introduction of gauze were due to the fact that the pus in the abdomen contained streptococci.

Dr. N. Stone Scott asked what method the essayist employed in the management of bad cases of appendicitis which were seen from a third to the tenth day of the attack. He also asked as to his experience with the frequency of chronic appendicitis and as to his treatment of the stump of the appendix.

Dr. H. J. Lee said that, speaking as a general practitioner and after considerable experience, he was a firm believer in operating on every patient with appendicitis, when the diagnosis was made. He had seen three who were not operated on, in whom a subsequent attack occurred under conditions where an operation was impossible and the attacks resulted fatally. He asked Dr. Morris if he had observed, in cases of appendicitis, that pressure on the left side of the abdomen frequently caused pain on the affected side.

Dr. A. B. Walker, of Canton, asked whether or not all cases of streptococcus infection are fatal, and what the essayist's experience had been with the use of antistreptococcus serum.

Dr. Robert T. Morris, in closing, said that appendicitis does occur by infection from the peritoneal side, but that in such cases it is only the slowly progressing disease. He has found the pus sterile in many cases, in others the colon bacillus, streptococci, sometimes staphylococci and in one case a pure culture of staphylococcus albus. In certain ones he employed a drain consisting of a small piece of wick, instead of the gauze packing. In the multiple openings for general septic peritonitis he usually closes them all but the one opening into the pelvis, in which he used a wick drain. While many of his serious ones would have recovered without operation, statistics show that in such cases the first attack is fatal in 10 per cent., and subsequent attacks in 15 per cent. In addition to greatly reducing this death-rate, there is a great saving of time, suffering and anxiety. He said he used the hydrogen peroxid for its mechanical effect in blowing the pus out of the abdominal cavity, and that it left the cavity cleaner than he could leave it with any sponge. In answer to Dr. Scott, he said that he would operate in such cases without waiting for a safe interval, and the word "safe" in these cases is meant to apply to the surgeon's reputation and not to the welfare of the patient. He said that when he spoke of appendicitis he referred essentially to infective appendicitis.

In treating the stump he inverts it in all cases in which it is possible, and when the tissues are fragile, he endeavors to bring the cecum nearer the surface and suture it there, so that in case a second perforation occurs it will escape externally. He advocates allowing the patient to decide as to whether an operation should be done or not.

Philadelphia Pathological Society.

March 23, 1900.

President, Dr. F. A. Packard.

HEMORRHAGIC PANCREATITIS.

Dr. J. A. Scott presented specimens from a case of this in a man 50 years of age, who had presented symptoms of intestinal obstruction. His personal history was good, and he was not addicted to alcohol. Three days previous to entry into the Pennsylvania Hospital, he began to vomit and later suffered from pain in the epigastric region, referred to the left iliac fossa. There was general abdominal tenderness, but no jaundice. An exploratory incision was made, but death occurred. On opening the abdomen the omentum was found studded with areas of fat necrosis, a condition nearly always found in hemorrhagic pancreatitis. In these areas fat droplets and fat crystals were found microscopically. The gland was swollen to about three times its natural size, and its head looked grayish. In the areas not affected by the recent hemorrhages there were evidences of old hemorrhagic foci. An interesting feature was the appearance of the blood-vessels—the endothelium showing evidences of marked proliferation. The kidney was swollen and pale. Cultures were made and showed colon bacilli present.

Dr. Simon Flexner stated that the specimen presented very much resembled the condition produced in cases of experimental pancreatitis but the vascular changes were different. In the case presented the blood-vessels resembled those found in tubercular meningitis. In these cases it might be an interesting point to know whether or not the agent which produced the inflammatory change was the one which brought about the hemorrhage.

SARCOMA OF MEDIASTINUM.

Dr. J. A. Scott also exhibited a specimen of sarcoma of the anterior mediastinum from a woman 32 years old, in whom the tumor first made its appearance shortly after confinement. Later there was great pallor, cough, distended veins of the neck, and effusion in the pleural cavities. The heart was not displaced. The glands of the axilla were enlarged, but there was no enlargement of the inguinal ones. The lower extremities were not edematous, but emaciated. The blood examination showed: red cells, 5,400,000; leucocytes, 38,000; hemoglobin, 69 per cent. Death occurred suddenly. Post-mortem showed the spleen enlarged and a large amount of abdominal fluid. The tumor was divided into two lobes, and had extended into the lung substance. It was found that the superior vena cava had been compressed just before its entrance into the auricle. The liver was enlarged, and showed a nutmeg appearance. On microscopic examination the growth proved to be a lymphosarcoma. Many multinuclear cells were found in the tumor.

HEMORRHAGE INTO THE PONS.

Drs. W. S. Wadsworth and Wm. G. Spiller presented a specimen of this condition, from a man aged 50. Death occurred about one-half hour after the hemorrhage. As to symptoms, the face was cyanotic and the pupils contracted. The respiratory failure caused death. It has been found that in these cases the hemorrhage has a tendency to occupy the median line of the pons. There had been no hemorrhage into the ventricles.

Dr. A. A. Eshner expressed the opinion that hemorrhage into the pons is of more common occurrence than recognized. Last year he found two such cases, and shortly afterward Dr. F. A. Packard showed specimens.

TUBERCULOSIS OF THE SKIN.

Dr. Jay F. Schamberg reported a case of tuberculosis of the skin of the hand, resulting from accidental inoculation. The case was one in which a physician had a year previously treated two patients for tuberculosis of the throat, and it is supposed inoculation of the hand occurred in making the applications. A scratch at first occurred and a small tumor developed on the knuckle, which afterward underwent necrosis in certain areas—the size of pinpoints. The tumor was excised and, on microscopic examination, showed giant cells, and hyperplastic areas. No tubercle bacilli were found. Small particles of the tumor were inoculated into the abdominal region of guinea-pigs. One of them died on the 116th day, and tuberculous nodules were found in the lymphatic glands. The second one was killed on the 118th day, and at the site of the wound a cold abscess was found. There were other areas showing evidences of tuberculous invasion.

American Laryngological, Rhinological and Otological Society.

Southern Section, Louisville, Ky., March 30, 1900.

(Concluded from p. 1003.)

ACUTE THYROIDITIS.

Dr. D. B. Kyle, Philadelphia, presented a paper with this title. He had seen two cases within two weeks, the only ones he had ever seen, and in reviewing the literature of this trouble emphasized the rarity of this condition. There are two forms, suppurative and simple. The latter is more common in females between 20 and 30 years of age, with sudden onset, vague pains in the neck, swelling of the thyroid to the size of a hen's egg; marked fever; the swelling and fever begin to abate in three or four days. The suppurative form occurs in septic diseases, has a characteristic fever and general symptoms and local signs of suppuration. There is often an infection of bacterial origin, but most frequently the causal factor has not been located.

Two cases were reported, with recovery in both. The treatment was the administration of calomel for several days, salines, and cold continuously with ten minutes' intermission each half hour, and stimulating nourishment.

DEATH FOLLOWING OPERATION FOR NASAL SYNECHIAE.

Dr. J. A. White, Richmond, Va., reported a case of death in four days following a simple operation for nasal synechiæ, and inquired whether it was a sequence or coincidence. The case was that of a young man presenting himself on December 8, with symptoms of constant headache, nasal obstruction and hyperopic astigmatism. Dr. White first corrected the astigmatism and then broke up the adhesions of the deflected septum. After a few days the headache returned but was less severe and there was still some nasal obstruction. A little chromic acid was then used. On the 23d he was looking very bad, but nothing out of the ordinary was found. The temperature was 103.6, but under quinin it came down readily. The next day he was found unconscious, having been sitting in the same place for sixteen hours. The temperature was 101, pulse 90, slight contraction of the tendons of the left hand, no eye symptoms. All efforts to arouse him failed. Eight ounces of urine were drawn and found to be almost solid albumin. Dr. White at once thought of meningitis and of uremic poisoning; as to the former, he had never heard of a case of nasal traumatism or inflammation of the ethmoid cells or frontal sinuses non-purulent in character the cause of meningitis. He did not think it could have been a thrombosis, and was inclined to the belief that death was due to nephritis. He thought the rapidity of the man's death precluded meningitis. No autopsy was permitted. Dr. White admitted that simple operations on the nose are very often followed by consequences out of all proportions to the traumatism, but did not believe that this was the cause of death.

Dr. D. B. Kyle, Philadelphia, thought Dr. White was right in ascribing death to kidney lesion; it was either that or thrombosis.

Dr. L. B. Graddy agreed that it must have been a case of advanced albuminuria.

Dr. N. H. Pierce expressed himself confident that it was a case of chronic nephritis. He called attention to the apparent intimate connection between albuminuria and nasal operations, mentioning the case of a young man, meeting with a nasal traumatism, who developed a serious condition of albuminuria, yet whose urine had been examined for life insurance three days before the accident. He reported another case where the application of chromic acid increased the albumin to an alarming extent.

Dr. Wm. Cheatham did not think Dr. White's operation had anything to do with the death of the patient. He emphasized the occurrence of serious symptoms occasionally from the most trivial operation on the nose, illustrating by the case of a patient who rapidly developed erysipelas after a trifling operation. He does not believe in predisposition playing a part in these troubles, and said that the only predisposition he believes in is an abrasion of the nose.

Dr. J. A. White, closing the discussion, expressed disappointment at not receiving more information regarding the relation of the operation to meningitis. He was anxious to know whether it would be possible for meningitis to have developed in such a short time without previous suppuration in the nose. He was fully aware of the dangers following nasal operations, and said that it is his invariable rule to take the temperature the next day. He has seen violent attacks of tonsillitis follow within twenty-four hours, but has never been able to determine the connection between the two. He thought the case of erysipelas reported by Dr. Cheatham came too quickly to have been due to the operation, yet he had seen cases where there seemed to be connection.

NASAL ANGIOMA.

Dr. T. V. Fitzpatrick, Cincinnati, Ohio, presented a paper on this subject. He reported the case of a woman, 20 years of age, with no nasal injury nor disease. There had been hemorrhages for six months; not much obstruction to respiration; pulsation in the nose. The tumor was attached to the inferior turbinate, with a slough on its anterior surface. The case was reported, as the literature on the subject showed true angiomata to be rare.

Dr. D. B. Kyle stated he believed these tumors to be a dilatation of the original blood-vessels. The tumor referred to in literature is a mixed tumor spoken of as a fibroangioma or other combination. If it is a true blood-vessel tumor it is not a new growth; it is benign.

Dr. N. H. Pierce said one is apt to confound these growths with those on the vascular turbinates. He referred to two patients in whom there was recurrent hemorrhage; in one the tumor was the size of a pin, the other of a pea.

ANGIOFIBROMA OF NOSE AND PHARYNX.

Dr. M. F. Coomes, Louisville, presented a clinical case. When first seen the patient was exsanguine, a mass protruded from the mouth and nose, a piece hung in the larynx, interfering with the breathing, and the tongue was concave to accommodate the growth in his mouth. The greater part of the mass that could be reached was removed piecemeal, by snaring, cutting and ligating. A Jarvis snare was pushed back on the growth, tightly applied and left on from sixty to 120 hours, then punctured and removed. The patient recovered, but still has a large mass showing externally.

NASAL HEMORRHAGE.

Dr. T. V. Fitzpatrick, Cincinnati, Ohio, reported a case of persistent nasal hemorrhage. It followed the removal of a hypertrophied turbinate on the right side by the galvanocautery. It is his custom to always ask a patient, before a cutting operation, if he has been a bleeder, and this one had stated that he bled freely ten years before, but not since that time. Two days after the operation he was found to be bleeding profusely, almost exsanguinated. It was controlled by a gauze packing, but after the second one the bleeding occurred around it, due he believed to a subsidence of the swelling of the vessels, a consequent loosening of the packing and bleeding. A general pulsation all over the body was felt before each attack of hemorrhage. This vasomotor disturbance was seen to precede each hemorrhage. A hypodermic injection of ergotin, given by the nurse caused dizziness, faintness and convulsive body movements lasting fifteen minutes Thirty-grain doses of bromid of sodium were given, with a disappearance of the vasomotor disturbances and bleeding, and the packing removed without recurrence.

LARYNGEAL VERTIGO.

Dr. J. A. White, Richmond, Va., reported two cases of uncertain diagnosis. One was a man, 45 years of age, who contracted whooping-cough, but was apparently well of it for 2½ months when this peculiar condition developed. After attacks of coughing he would have a period of unconsciousness, whether standing or sitting. The Doctor was consulted because of an injury received by a fall following a spell of coughing. At the end of a coughing spell his head would swim, with a sensation of choking and a flushing of the face present. His diagnosis was laryngeal vertigo. He found nothing that did any good. In a succession of these cases what would do one good would fail in another.

The other case was a fibroid growth of the tonsil in a woman of 18 years. Examination of a piece removed for that purpose showed it to be a fibroma. A pendunculated or encapsulated growth can be cut down upon and removed, but this occupies the right half of the throat, extending down to the epiglottis, is a solid hard mass, without any evidences of the growth externally. He suggested external incision for removal, but this was refused, and as a last resort he used electrolysis. The lower part of the tumor had disappeared but the upper portion remains the same.

Dr. H. W. Loeb, speaking of the first case, believed it to be true laryngeal vertigo. A case he knew of, occurring in the practice of Dr. Mulhall of St. Louis, had been much improved by a simple hygienic plan of treatment.

Dr. D. B. Kyle reported the case of a man, 60 years of age, who had contracted whooping-cough from his grandchildren, would gasp following a paroxysm until unconsciousness supervened, gradually beginning breathing again. Free purgation, and the exhibition of podophyllin and sodii phosphate gave great relief. In whooping-cough the only lesion that is discoverable is an enlargement of the glands at the back of the pharynx and esophagus; during a fit of coughing pressure is increased on the recurrent laryngeal nerve.

Dr. M. F. Coomes reported the case of a woman, 65 years of age in whom there was a growth similar to the one reported by Dr. White. He had advised operative [illegible] ence, [illegible] on cutting down on the tumor and find [illegible] desisted and advised against further [illegible]

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
61 MARKET STREET, - CHICAGO.

SATURDAY, APRIL 28, 1900.

DEFORMING ARTHRITIS.

Of the obscure nature of this disorder evidence is afforded by the contrariety of names that have been given to it, namely, arthritis deformans, rheumatoid arthritis, rheumatic gout. The condition is, however, generally believed to be in no way related to either rheumatism or gout, so that the preferable name for the present would seem to be arthritis deformans, or its English substitute, deforming arthritis. We have in a previous article described a morbid process—chronic villous arthritis—attended with hyperplasia of the articular synovial membrane, and which, while it presents a certain superficial resemblance to deforming arthritis, is characterized by features that serve to distinguish it from the latter disorder. These points of differentiation were recently fully discussed by Schüller.[1] In deforming arthritis the morbid process involves essentially and principally the articular cartilage. It consists in a proliferative hyperplasia of the cartilage-cells, swelling of the cellular spaces, fibrillation of the cartilage toward the free surface of the joint, and also destruction and eburnation of the altered cartilage at the center and at points of contact or friction in the joint, and in ossifying prominences at the periphery of the hyperplastic cartilaginous tissue at the margins of the articular extremity. In the soft parts adjacent to the articular extremities ossifying induration occurs at times, which has been designated para-arthritic ossification. These changes are responsible for the attending deformity, while the alteration in the shape of the joints in cases of chronic villous arthritis is due not to changes in the articular extremities of the bone, but essentially or exclusively to the formation of villi and other chronic inflammatory alterations in the synovial membrane or the capsule of the joint. It is true that deforming arthritis may be attended with villous hyperplasia of the synovial membrane, but this is less marked and of subordinate importance and it does not determine the anatomic condition of the disease. The villi, further, present macroscopic and microscopic differences in the two disorders. The villi of deforming arthritis are firmer, consist of connective or fatty tissue in a state of simple chronic inflammation, often with a deposition of cartilage, but without the abundance of blood-vessels seen in villous arthritis, without dumb-bell shaped bacilli and without the peculiarly grouped and diffuse large-cell and extremely abundant cellular hyperplasia. Deforming arthritis always begins in the cartilage, never in the synovial membrane, and the essential pathologic alterations consist in changes in the cartilages and in the articular extremity of the bones, while these are wanting in villous arthritis. These differences can be distinguished clinically on physical examination, especially on palpation; although sometimes the characteristic appearance of the joint, and particularly in marked cases the irregular, often bladder-like prominence or dilatation of the joint-capsule permits the recognition of the disorder on inspection; while in marked cases of deforming arthritis the altered form and position are sufficient for diagnosis. On careful palpation of the diseased joints it may be possible to detect the villi and their arrangement, the character of the synovial membrane and the condition of the articular cartilage on the one hand, or the want of accentuation or prominence of the free margins of the articular extremities on the other. X-ray examinations may disclose the conditions present in marked cases of deforming arthritis, but the results are uncertain in cases of villous arthritis, particularly when other methods of examination fail, and they are thus only of negative value. Villous arthritis is generally attended with considerable pain in the joints, both spontaneously and on pressure on the swollen capsule and on the villi. In women the pain is increased at the menstrual period. The pain of deforming arthritis is in general slight, and it is usually present only on functional use of the part. Further, in spite of often not inconsiderable impairment of mobility due to deforming arthritis, the functional use of the affected parts is interfered with much less and much later than in cases of villous arthritis, which early induces profound disturbances. Further, deforming arthritis occurs generally in life, in the second half, and only exceptionally earlier, and not rarely involves a single joint, particularly after an injury. On the other hand, villous arthritis develops preferably in the first half of life, at a vigorous age, and often in youth. Traumatism is exceptionally or not at all a predisposing cause for villous arthritis involving a single joint. This variety appears much less commonly than deforming arthritis in a single joint. The general condition suffers much less in connection with multiple deforming arthritis than with multiple villous arthritis.

Believing that the ossifying change in the articular extremity in cases of deforming arthritis depends on disturbance in the excretion of the bone-salts, Schüller has examined the urine in all cases that have come under his observation, and has almost constantly found marked diminution in the lime-salts and the earthy phosphates. The urine has generally a low specific gravity, and rarely an acid reaction, being usually neutral and sometimes alkaline. While the normal elimination of lime-salts is from three to six grains daily, in cases of deforming arthritis it was found to be from $\frac{1}{4}$ to $1\frac{1}{4}$ grains. It has been discovered also that the amount of calcium, magnesium and phosphoric acid, not only in the urine, but also in the stools, is diminished in cases of deforming arthritis. *These changes must be referred to a derangement in metabolism, and they suggest that lime is re-*

---

[1] Berliner Klin. Woch., 1900, Nos. 5, 6, 7.

tained in the joints or is deposited therein in increased amount, and it was found by histochemic means that the cartilage contained an excess of lime-salts. The deposition of lime-salts in the cartilage exerts both a destructive and an irritating influence, causing nutritive disturbances, fibrillation and necrosis, as well as cellular proliferation. These histologic alterations give rise to the characteristic anatomic changes in the joint that develop under the influence of pressure and friction in the course of functional use, while at the same time, in consequence of the continued abnormal supply of lime-salts, the swellings and prominences resulting from proliferation of the cartilage-cells and inflammatory irritation of the periosteal tissue undergo ossification. The evidence suggests further that the changes that take place in the synovial membrane in cases of deforming arthritis are due, in part at least, to abnormal deposition of lime-salts. Possibly also the free cartilaginous or bony bodies found in joints in cases of deforming arthritis have a similar origin. It would be expected that the changes described would occur more readily in a joint whose nutrition had been impaired, and it may be that deforming arthritis occasionally follows previous articular disease for this reason. Deforming arthritis involving a single joint is, further, not rarely observed in the sequence of traumatism or fracture.

Deforming arthritis is believed not to be of bacterial origin, but to be a metabolic disturbance characterized in part by the deposition of lime-salts in the bone, cartilage and soft parts of joints, with diminished elimination of lime-salts in the urine. These abnormalities must in turn be referred to disturbances in nutrition, and it will be found that most patients presenting this disorder are constipated or exhibit irregularity in bowel movement, with flatulence, dyspeptic symptoms and digestive derangement of various kinds. It may be that in consequence of fermentative processes in the digestive tract, or other undetermined metabolic disorder, lime-salts are taken up in excess from food and carried to the joints.

Deforming arthritis has hitherto proved extremely resistant to treatment, and physicians have generally been satisfied to relieve the pain of the acute stage or exacerbations and, if possible, to stay the progress of the disease. Sometimes the disorder seems to reach a stationary period, but this can not often be attributed to therapeutic intervention. Many remedies have been recommended, as in all chronic and obstinate affections. Hydrotherapy, together with the provision of the best hygienic and dietetic conditions, comprises perhaps the best general measure. Among drugs, arsenic, cod-liver oil, phosphorus, iodids and salicylates may be employed. Active and persistent counterirritation has at times seemed to yield beneficial results. Quite remarkable results have been reported from the use of hot air in the treatment of deforming arthritis, and while the procedure is one that requires time and perseverance, it should receive the application of which it has proved worthy. As a result of his studies Schüller believes that for cases of deforming arthritis a milk diet is not indicated, as milk contains considerable lime. Kefyr should not be employed for the same reason. A mixed, easily digested diet, with a deficiency of lime is best. All food that is capable of readily undergoing fermentation in the digestive tract is to be avoided. Carlsbad water or salt is advisable, employed for about four weeks, and then followed by massage and hydrotherapy, with douches and baths. This plan of treatment may be repeated from time to time. As a result the pains in the joints are lessened. The tumefaction diminishes, mobility is increased and locomotion is rendered easier. In mild cases local articular manifestations recede, while even in severe cases amelioration of the symptoms results. As a rule, also the amount of calcium in the urine increases under this treatment. Occasionally operation may be required.

UNUSUAL LESIONS OF VERMIFORM APPENDIX.

According to the statistics brought forward by A. O. J. Kelly,[1] it appears that "of 1391 cases of carcinoma of the intestine, the rectum was the seat of the new growth in 988 cases, the large intestine in 251, the cecum and the appendix in 79, the ileum in 32, the jejunum in 17, and the duodenum in 24." Of the 79 cases involving the cecum and the appendix it is not possible to learn how many were primary in the appendix; Kelly could find but five cases in this series in which the carcinoma was clearly limited to the appendix; in addition he enumerated thirteen other cases of carcinoma of this structure. Among 706 appendices, removed by Deaver and examined by Kelly, he found three instances of carcinoma and one of endothelioma. These four cases are of interest because in all the operations by which the appendices were removed were undertaken for the relief of the clinical symptoms of appendicitis, and in three cases inflammatory changes were present in addition to the neoplasms, which were microscopic in size and undoubtedly primary in the appendix. In the fourth case, which ended fatally, the exact origin of the tumor—carcinoma—could not be established, the probabilities, however, pointing to its origin in the appendix. In view of the fact that the symptoms were those of appendicitis and the tumors were microscopic in size, it seems not unlikely that systematic examination of appendices removed by operations would reveal a larger number of tumors in the appendix than our present information indicates. The occurrence of repeated inflammation in a structure like the appendix would seem to tend to establish conditions favorable for tumor growth.

The presence of worms in the appendix has been occasionally noted. At a recent meeting of the Philadelphia Pathological Society Frazier[2] reported a case of removal of an appendix which was found filled with oxyures vermiculares. Frazier points out that while worms could not per se cause appendicitis, yet their presence in large number might play the part of dispo

---

[1] Proc. Phila. Path. Soc., 1900, iii, 100; The J

[2] Ibid., 129.

causes, interfering with the drainage of the appendix and creating conditions favorable for microbic growth. At the same meeting G. G. Davis[3] reported an instance in which a segment of tapeworm was found lodged behind a constriction in an acutely inflamed appendix, and Beyea referred to the presence of a single oxyuris in an appendix. Kelly recalled the fact that Saracenus, in 1642, described an abscess in the right iliac region, with discharge of fecal matter and fourteen lumbricoid worms, this being the first case of appendicitis—perityphilitis—recorded.

Another rather unusual but interesting abnormal condition of the appendix is its presence in hernias. Jopson[4] describes a case of inguinal hernia that contained the appendix, which was gangrenous from strangulation near its origin; the patient died from general peritonitis. Peterson[5] recently estimated the number of cases of hernia of the appendix reported in the literature at 116. Jopson goes over the facts in regard to hernia of the appendix with great detail, and many interesting features are recounted, which are not suitable, however, for repetition at this time. The appendix may occur in inguinal as well as in crural hernias, but the case recently described by Bouglé and Dartigues[6] is probably quite unique. It concerns a strangulated, right femoral hernia, containing the appendix, in a woman, age 63; laparotomy was made and the appendix, which was healthy, reduced; three days later a strangulated inguinal hernia developed, which also contained the appendix, but this time it was inflamed. A second laparotomy was made, the hernia reduced, and the appendix removed. The patient died. The autopsy showed a normal peritoneum, the heart dilated and fatty, and the kidneys sclerotic. In this case, as in so many of appendiceal hernia, the strangulation of the appendix gave rise to complete intestinal obstruction, due most likely to reflex action.

These observations serve to illustrate the variety of important pathologic conditions in which the appendix, though such a small structure, plays the essential rôle.

ACTION OF HEAT AND COLD ON CELLS AND TISSUES.

Some time ago two interesting and rather novel investigations into the action of heat and cold on certain cells and tissues were published, the principal results of which follow. Hochhaus[1] points out that comparatively little is known about the microscopic changes that develop after the action of very low temperature on the tissues. He therefore arranged a set of experiments by means of which he exposed circumscribed areas of the kidneys and the liver to the action of intense cold produced by carbonic acid gas under high pressure. Two hours after the application of cold there developed swelling of the protoplasm of the renal cells and evidences of nuclear disintegration; four hours later the nuclei disappeared, the vessels became hyperemic and some hemorrhage took place; in twenty-four hours leucocytes had emigrated only to disintegrate; after a few days calcification of numerous renal cells had taken place, which was followed by connective-tissue proliferation and ultimate encapsulation of the calcified area without any attempt at regeneration of the surrounding tubules. In the liver the early changes were similar to those in the kidney, but the connective-tissue proliferation began earlier and was more marked than in this organ; within four to eight days numerous multinuclear giant cells appeared, whose fate is not followed any further than to note their disappearance in some way. Eventually an external scar resulted

Fuerst[2] studied the changes in the human and animal epithelium, that result from the action of moderate degrees of heat and of cold. The experiments were originally undertaken in order to study the results, on cell proliferation, of pure hyperemia, uncomplicated by traumatism and inflammation. According to the views of Ribbert, under whose direction this investigation was carried out, increased blood-supply to an organ separates the cells from each other, diminishes the normal tension and thus liberates, as it were, the latent proliferative energy of the cells. The preliminary results[3] obtained from the study of the action of moderate cold produced by a spray of ether on the ears of rabbits and guinea-pigs, were such that an elaboration of the experiments so as to include the changes produced by repeated applications of moderate degrees of cold and of heat on both the animal and human epidermis was undertaken. The degree of heat applied did not exceed 52 C. for two minutes at one time. It was found that brief, frequently repeated applications of mild degrees of heat and cold produced, both in man and the animals employed, a marked thickening of the epidermis; this was due especially to an enormous hypertrophy of the cells as well as, in the second instance, to cell proliferation. The changes of the corium are limited to hyperemia. In the cells of the epithelial covering of the milk and sebaceous glands numerous and large multinuclear giant cells make their appearance early; it is assumed that the abnormal temperature produces an injury to the protoplasm while the nucleus remains normal; this damage to the protoplasm removes the normal hindrance to the proliferation of the nucleus, which now is given full sway to proliferate.

It was found that thermal stimuli of this sort in the guinea-pig hasten regeneration threefold. The action of high temperature can be successively increased without damage, up to a certain degree, for the tissues adapt themselves to the new conditions and acquire a relative immunity. Fuerst also found that the application of cantharidin and chemical agents in weak solution induces similar proliferations without inducing giant cell formation. It is concluded that the hypertrophic processes observed are not so much attributable to any direct "formative" action of the thermal stimulus, nor to hyperemia, but are rather the results of primary tissue lesions; and as such examples of excessive regeneration. Fuerst suggests that the increased capacity for regeneration under these circumstances may be of advantage in clinical surgery, and recommends further experiments with this end in view.

---

[3] The Journal, April 7, p. 876.

[4] Proc. Phila. Path. Soc., 1900, iii, 119.

[5] The Journal, 1899, xxxiii, 1407.

[6] Bull. et Mem. de la Soc. Anat. de Paris, 1900, lxxv, 73.

[1] Virchow's Archiv, 1898, 154, 320.

[2] Ziegler's Beiträge, 1898, xxiv, 415.

[3] Embodied in Fuerst's inaugural thesis, Ueber die Veränderungen der Epidermis durch leichte Kalteeinwirkungen. Königsberg, 1897.

QUARANTINE APPROPRIATIONS.

The Secretary of the Treasury has recently asked for an additional appropriation of $200,000 to prevent the introduction and spread of epidemic diseases, the previous appropriation of $300,000 being almost exhausted. In these days of large things this sum may not appear great, but it would be a very respectable fortune by itself. It is none too much, however, to pay for adequate protection, and is in this light an economical investment. The fund is used for quarantine purposes and the maintenance of a corps of medical inspectors at the various foreign ports whence infection is likely to come, including a large number of South and Central American stations, as well as those in Europe and Western Asia. The continued and increasing danger of the bubonic plague, as well as the permanent one of yellow fever, furnish ample means of utilizing this appropriation or even a still larger one.

MEDICAL THEOLOGY.

The Archbishop of Montreal is said by the *British Medical Journal,* to be thinking of founding a course on medical theology in Laval University. Our contemporary does not know just what medical theology is, but hopes that it may not be added to the already overburdened curriculum of the student. The term is new to us also, but if we may venture a guess, we would think the course might include certain questions of medical deontology such as those arising in connection with abortion, baptism, etc., which have been more or less extensively discussed by Roman Catholic theologians. The medical profession has generally held that the proper application of the recognized ethical principles is sufficient for all emergencies, but there are still some doctrinal points on which the church may deem some special instruction required, and that will also come within the compass of the proposed course. This is offered in default of an express definition as our idea of what is meant by "medical theology." In this or a similar sense we might have a Judaic or a Mormon medical theology as well as a Roman Catholic one. It is not probable, however, that their introduction into medical courses will be general or that they will cause theologic discord in the medical profession.

WATER-BORNE TYPHOID AND TEMPERATURE.

While it has been shown that many bacterial germs, as well as some higher organisms, will resist almost any known or applicable degree of cold and retain their vitality after subjection to the temperature of liquid air, it is also true that low temperatures do have a certain restrictive action on their growth. Even more than this, it appears to be also true that the ordinary cold of winter temperature has a destructive influence on certain pathogenic germs. Thus, while the pollution of ice used for dietary purposes has been known to cause intestinal disturbance, it appears that there is in the literature no record of any epidemic of typhoid fever having been caused this way. Sedgwick and Winslow[1] have investigated the action of freezing on Eberth's bacillus, with special reference to this point. While it is known that cultures of this germ are not sterilized by freezing, the question of its quantitative reduction by this agency has been little investigated. They experimented therefore by freezing a large number of test tubes of water inoculated with four different races of this bacillus and determined the reduction after various periods. The results, twenty tubes being averaged for each period, showed a rapid reduction ranging from 30 to 60 per cent. in the first hour and then decreasing to over 99 per cent. in two weeks. The last two or three bacilli in the thousand appeared excessively resistant, some remaining even after twelve weeks of freezing. Alternate freezing and thawing were found only slightly more destructive than constant freezing, and a water temperature a little above the freezing point not much less. Finally a few experiments on the formation of ice on a free surface showed that 90 per cent. of the germs present were excluded by physical processes. It would appear from these studies that the old popular notion that water purifies itself by freezing has in it more truth than some ardent sanitarians have been willing to admit. As a practical illustration, it would appear that a winter typhoid germ starting from Chicago via the drainage canal would in ninety-nine cases out of a hundred be frozen to death before reaching St. Louis, let alone any other perils it would meet with on its way.

CHARTER OF THE NEW YORK STATE MEDICAL ASSOCIATION.

During the recent session of the legislature of the State of New York, an act was passed granting a charter to the New York State Medical Association. The objects of the Association are defined to be "The Cultivation and Advancement of the Science of Medicine, the Promotion of Public Health and the Establishment of a Death Benefit Fund for the Dependents of Its Members." The Association was organized in 1884 as an incorporated Association of members of the medical profession of the state who adhered to the Code of Ethics of the AMERICAN MEDICAL ASSOCIATION, which had been discarded by the medical society of the state. During this long period of sixteen years the Association has maintained a vigorous growth, as its large membership of nearly 700 and its fifteen portly volumes of annual transactions abundantly attest. It has also gradually assumed a leading position among the medical organizations of the state and now ranks second to none in influence and power on all questions relating to medical education, public hygiene and other interests of the profession that require legislation. It has been for some time apparent that the Association would have to become a chartered body to enable it to meet its increasing obligations to the profession and to the public. Accordingly a charter was prepared giving it needful powers in *the management of its property, in the establishment of* a "Death Benefit Fund" for the dependent of its members, to enable it to form distinct branches and subordinate county associations, and, finally, to give to it that legalized character necessary to the furtherance of cordial professional relations and fellowship between the medical profession of the state and of other states and of foreign countries through the medium of their chartered medical societies. We foresee that, with the granting of a charter by the New York legislature, a new era in the history of the Association is about to begin. Having the vantage ground of a chartered corporation, its power in the profession, in legislative halls, and in medical organizations at home and abroad will be greatly enhanced. Not the least of the benefits which will result from the larger activities of this Association will be realized by the AMERICAN MEDICAL ASSOCIATION. Sustained by the profession of the Empire State, compactly organized in district and county associations, the New York State Medical Association is certainly to become a powerful factor among the forces which will in the future direct and control the destinies of the great central organization.

---

[1] Jour. of Boston Society of Med.

HEMATOZOON INFECTION IN RATS.

Lydia Rabinowitsch and Walter Kempner's[1] study of the flagellate parasite of the rats' blood, the trypanosoma, establishes another example of hematozoon infection, like malaria and Texas fever, in which the infection is carried by suctorial insects, in this case by the flea especially. These insects draw the blood of the infected rats; the trypanosoma has the power of remaining alive for a time in the body of the insect, whence it is again deposited into a healthy rat during the act of sucking blood. The full cycle of development of the parasite has not been wholly traced, but based on analogy with malarial and similar infections we undoubtedly have here an instructive example of a hematozoon which requires two hosts for its existence, the rat and an insect like the flea. The complete demonstration of this double existence of animal parasites of the blood, through *the work of such men* as Manson, Theobald Smith, Ross, Grassi, Bignami and others, has introduced a new departure in the study of etiology and parasitology, with the immediate result that a clear insight has been obtained into the natural mode of infection in malaria, etc. It is of interest to observe that the above writers also show that in the case of the white rat, which does not seem to be spontaneously susceptible to the trypanosoma infection, experimental intraperitoneal inoculation with the blood of infected gray rats is followed by the development of a well-marked active immunity, the serum possessing protective and curative powers for both gray and white rats. Agglutinating phenomena were not present in the trypanosoma serum.

CONDITIONS OF TERROR IN CHILDREN.

The young are peculiarly susceptible to emotional influences, and these may be of intrinsic or extrinsic origin. Children are readily startled and easily frightened, and in them the imagination responds quickly to stimulation. These facts find their explanation in the irritability and *instability of the* nervous system in early life, and its prompt reaction to various stimuli. Indiscretions in diet and gastrointestinal, nutritive and metabolic disturbances, constitute the most common etiologic factors in the development of derangements of nervous functional activity in childhood. A not uncommon disorder, whose exact nature is unknown, but which is at times attributable to such an origin, consists in the occurrence of attacks in which the little patient cries out during sleep as if in fright, and is perhaps awakened in great terror. A similar condition of fright, without tangible or at least adequate cause, occurs, though less commonly, during the waking hours, either independently of or in conjunction with the disturbance during sleep. Three cases of this kind are reported by Still,[1] who enters on an interesting discussion of the nature of the disorder. He points out that children who suffer from so-called day-terrors are of excitable nervous temperament. Neurotic heredity is an important predisposing influence, and a family history of rheumatism is not uncommon. By some these states of terror have been thought to be related to epilepsy and mania, but the former are much more amenable to treatment than the latter. Mucous disease, probably with catarrh of the large intestine, is believed to be especially provocative of night-terrors, and often the nervous disturbance will cease when the intestinal disorder is corrected. Adenoid hyperplasia in the pharynx may play a similar rôle. It is not impossible that the same facts apply also to day-terrors. From a comparative and prognostic point of view these may be considered a more ominous disorder than night-terrors. In treatment, the most important factor is the removal of the exciting cause. Chronic intestinal catarrh will require rigid dieting, with the exclusion of potatoes, pastry and sugar, and the administration of alkalies, such as potassium citrate, perhaps with iron and compound decoction of aloes. Thread-worms, if present, or other cause of irritation, should be removed by suitable treatment. Sedatives, such as bromids, may be required for a time, and they may be combined advantageously with belladonna.

Medical News.

THE CONSTANT decrease in the number of medical students in France still continues. From 2212 in 1891, the number rose to 8897 in 1894, and has since then fallen gradually to 8230 this year, which includes 817 foreigners.

ARBITRATION OF SCIENTIFIC QUERIES.—Arbitration has never been applied to scientific questions, but three scientists at Buenos Ayres have agreed to adopt it to decide to which belongs the credit of the discovery of the microbe causing the disease among sheep known as "lombriz" or worms. Dr. Lignières first described it and, later Mercanti and Dessy described another, which Lignières *claims is identical with his. The director of* the bacteriologic laboratory, Dr. Rivero, has accepted the task of deciding the question after thorough investigation. Dr. Lignières is *now experimenting* on a large scale with his vaccin against Texas fever—which he calls "bovine malaria"—under the supervision of a committee appointed by the department of agriculture.

---

[1] Ztft. f. Hyg. u. Infektionskr., 1899, xxxi, 251.

[1] The Lancet, February 3, p. 292.

The international sanitary council of Egypt has been advertising for four physicians for the quarantine stations at Suakin, Kosseir, Damietta and Moses' Springs, and one woman physician for the station at Suez. The salary is about $120 to $140 a month.

Belgian Practice.—As previously mentioned, our Belgian exchanges recently advocated that professors should give up family and general practice and confine themselves to teaching and to consultations. The *Berliner Aertze Corr.*, March 3, reports that twenty-five young physicians in Budapesth have signed a petition to this effect, presented to the medical faculty, calling attention to the fact that the members of the law faculty are prohibited from private practice, and that the overworked medical professors now leave most of their clinics and lectures to their assistants. The Berlin journal adds that the professors and specialists in Berlin have also a more or less extensive general practice and that only the energetic protests of the profession will put an end to this "Unsitte." "When the general practitioner refuses to join in a consultation with such competitors, the evil will soon disappear of itself."

Foreign Physicians in Italy.—The Italian government has about decided to insist that all foreign physicians wishing to practice in Italy must first pass the examination required of native physicians, unless from a country in which duly accredited Italian practitioners are allowed to practice without restrictions, which is not the case in England or Germany. The only exception to be allowed is when a physician accompanies or is sent for by a special patient or family and limits his attention to these individuals. The wealthy "resorters" in Italy are now treated by their countrymen settled in Italy, and this the Italians propose to share in. They also claim that some of the most successful foreign practitioners are not regularly graduated men. The younger Italian physicians, we are told, are familiar with English and German, and Italian science as a whole takes a high rank. It is peculiar in that it is not centralized as in other European countries, but groups of scientific workers are scattered over the country, clustering around men like De Renzi and others of international fame, connected with the numerous universities.

DISTRICT OF COLUMBIA.

At the Casualty Hospital the following medical work was done during the past three months; emergency department, 175 cases, 149 operations and 26 cases admitted to the wards; dispensary service, 336 cases treated, 59 operations performed, and 1517 prescriptions compounded.

An amendment to the District appropriation bill has been offered by Senators McMillan and Gallinger, granting $100,000 for the purchase of ground and the construction of a building to be used as a municipal hospital under the direction of the District Commissioners.

DWELLINGS FOR THE LABORING CLASSES.

One of the appendices to the report of the Health Officer of the District of Columbia (Document No. 7 of the present Congress) deals with the housing of the laboring classes in the city of Washington. From this it appears that a very successful experiment is in progress in that city. Several years ago inquiries were instituted into the insanitary conditions affecting the dwellings of the poor by certain local societies interested in the public welfare. The result of this investigation showed the existence of many insanitary dwellings in the alleys of the city, including houses without cellar or attic, drainage, sewage or piped water-supply, with the interiors greatly over-crowded and the surrounding air foul-smelling from box-privies and stables. Immorality and crime were found to be prevalent in these alleys, some of which were narrow cul-de-sacs hidden by neighboring buildings and their very existence unknown except to the initiated. For such undesirable accommodations the rentals were found to be relatively much higher than those of better conditioned dwellings in other and better localities. The recommendations based on this investigation were the speedy conversion of all alleys containing a sufficient number of houses into minor streets and places, and the condemnation of those which could not be straightened, widened to thirty feet and provided with an exit at each end.

The Commissioners of the District appointed a committee, one of the duties of which was to consider the need of sanitary dwellings for the poor. Surgeon General Sternberg submitted, from this committee, a report which, after reciting the condition of the alley dwellings, announced the opinion that there was need for legislation by Congress, by which tenements unfit for human use should be condemned and destroyed, blind alleys opened, narrow ones widened, branch sewers constructed and gas and water introduced so that sanitary tenements might be constructed in the minor streets and alleys "to be rented to the poor as low or lower than are the insanitary dwellings now occupied by many of them." Pending legislation on the subject the Committee recommended the organization of a sanitary improvement company. This company was formed and incorporated in April, 1897, and since then twenty-eight houses, containing fifty-six sanitary flats, each consisting of four or five rooms with bathroom, cellar and closets, have been built and occupied to the material advantage and comfort of the occupants as well as to the financial advantage of the philanthropic individuals who took stock in the company to promote its objects, for during the past three years it has proved a safe 5 per cent. investment. The report of the health officer gives plans of the buildings, which are two-storied, each story constituting a flat, with separate entrance, cellar and yard. The lighting and ventilation are good and the plumbing the best. Each has three large closets and the kitchen is provided with a range, a hot-water cylinder, dressers and sinks. To promote care of the property on the part of tenants, one month's rent in each year is allowed for interior repairs, and if the money is not required for this purpose the tenant receives the benefit of the allowance or of so much of it as remains after required repairs have been paid for.

The success of this experiment shows how much may be done, with no financial risk, to improve the sanitary condition of the poor in certain localities. Where building ground is high-priced, large tenements may be a necessity, to keep the rentals within the financial ability of the individual tenants, notwithstanding the greater danger from the spread of infectious diseases and from fire in such large and crowded buildings; but there are many cities in this country where the poorer classes of the community would be benefited by action taken on the lines adopted by the Sanitary Improvement Company of Washington, D. C.

PENNSYLVANIA.

The annual charity ball for the benefit of the Williamsport Hospital was held April 15.

The state authorities recently examined fourteen cattle in Lancaster County, and five proved to be tubercular and were killed.

The dedication of the Phœnixville Hospital occurred April 14. An ambulance was presented by James M. Crawford of Philadelphia.

HOSPITAL REPORT.

The annual meeting of the Presbyterian Hospital Association, Allegheny, was held April 17. The reports showed that 249 patients had been admitted to the hospital during the year. There is a total of $40,000 in the endowment fund. The balance in the current fund last year was $265.93; the income from pay patients was $6446.19. The receipts from all sources amounted to $11,141.19.

Philadelphia.

The late Joseph H. Gillingham left $1000

Hospital.

A PATIENT at one of the hospitals of the city recently leaped from the third story of the building and sustained a fracture of the leg.

DR. CHAS. W. BURR has resigned from the Medico-Chirurgical College, his resignation to take effect at the close of the present term.

BY THE will of Mrs. Margaret Carter, $13,000 is left to the Jefferson Hospital, Philadelphia, for the establishment of a free bed.

THE RESIDUARY estate of Frederick Muehlig, who died in this city some time ago, amounting to $5000, has been left the German Hospital of Philadelphia, for endowing a free bed.

DURING THE past week the new Nurses' Home of the Hospital of the Protestant Episcopal Church was dedicated. Its completion was largely made possible by the gift of $100,000 from J. Vaughan Merrick; $4000 is being asked for toward the purchase of current literature for the home.

BY THE will of Ann K. Horner, $2000 has been left to the following named institutions: Germantown Dispensary and Hospital, Episcopal Hospital and Home for Aged and Infirmed Colored People; $14,000 to the Home for Incurables.

THE PURE Butter Protective Association is waging warfare against offenders of the laws restricting the sale of oleomargarin. During the past week thirteen persons were arraigned for violations of the law, and in each instance a fine of $50 was imposed.

SEVERAL hospitals, by the will of the late George W. Miles, will in time become beneficiaries as follows: Hospital of the Protestant Episcopal Church, Presbyterian and St. Joseph's hospitals, each $8000. The Pennsylvania and the Children's Hospital, the Home for Consumptives and the Germantown Dispensary and Hospital, each $5000; Maternity Hospital, $6000.

THE TOTAL number of deaths during the week just closed was 739, an increase of 48 over the preceding week and an increase of 234 over the corresponding period of last year. The principal causes were: cancer, 12; tuberculosis, 84; heart disease, 46; influenza, 31; pneumonia, 23; measles, 24; nephritis, 36.

OHIO.

CONNEAUT'S Board of Health has adopted a resolution requesting the Board of Education to pass an ordinance requiring the vaccination of all school children.

THE REPORT of the Columbus Health Department for March shows 162 deaths during the month. There were 12 fatal cases of typhoid fever, 1 of measles, 3 of diphtheria, 1 of croup, 19 of consumption and 22 of pneumonia.

Cincinnati.

DR. OTIS CAMERON has been appointed city bacteriologist and attached to the Health Department.

DR. JOHN M. ADAMS has been appointed physician to the city infirmary, vice Dr. Thomas P. Hart.

DR. H. H. HINES has been appointed surgical clinician to the Miami Medical College. He has just finished his service at the City Hospital.

THE HEIRS of the late Dr. John A. Murphy have turned over his large collection of medical books and pamphlets to the City Hospital's library.

THE HEALTH officer has adopted plans for more perfect sanitation among the tenement houses, which require district physicians to investigate more thoroughly and file written reports in the health office.

Toledo.

FOR MARCH the Health Department reported 159 deaths.

THE LATE Robert Hunter devised $1000 to the Protestant Hospital, on condition it be held, invested or expended by the officers of the hospital in such manner in and about the institution as may be directed by the Toledo Medical Association.

MARYLAND.

DR. J. F. H. GORSUCH, of Fork, has been appointed director of the Female House of Refuge.

THE RESIDENCE of Dr. Wm. H. H. Campbell, Owings' Mills, was destroyed by fire April 17. The Doctor's loss is about $5000, partly insured.

PLANS HAVE been prepared for the erection of the Frederick Hospital. The structure will be of brick, equipped with all modern improvements, and will cost about $10,000.

HOSPITAL IMPROVEMENTS.

Now that the large bequest of the late Enoch Pratt is available through the decision of the Supreme Court of the United States, noted in these columns last week, plans for the improvement of the Sheppard and Enoch Pratt Hospital, in the suburbs of Baltimore, are being formed. A casino will be built on the grounds, about 300 yards from the main building. It will be a low building, with a large porch and will be fitted up with bowling alleys, pool and billiard tables, and other games. The ground around will be laid off in tennis courts and for other sports. The building will cost about $20,000. The water-supply, for which reliance has hitherto been placed on the numerous springs in the place, will be increased by several artesian wells. Enlarging of the lighting plant is under consideration, to permit of lights on the driveways and a railroad station in connection with the Baltimore & Lehigh R. R., is another design. No additional buildings to the hospital proper are contemplated, as only curable cases are admitted and the present accommodations are considered sufficient.

Baltimore.

THE COMMENCEMENT of the College of Physicians and Surgeons was held April 24. There were 35 graduates.

THE SUPERVISORS of city charities, who have by law the control of the appropriations to these institutions, have adopted the plan of having visitors look after their management.

AT THE nineteenth annual commencement of Baltimore Medical College, held April 17, 61 received diplomas, one "*magna cum laude*," and 6 "*cum laude*." It is the custom of this institution to administer the Hippocratic oath to all graduates. A banquet followed in the evening.

DR. JOHN F. MANGER has filed a petition in the Court of Common Pleas, for a writ of mandamus requiring the State Board of Medical Examiners to issue him a permit to register as a physician, in accordance with the act of 1896 and the decision of the Court of Appeals in his favor. (See previous mention in THE JOURNAL.)

NEW YORK.

THE GOVERNOR has signed the bill authorizing the city of Buffalo to spend $50,000 on a quarantine hospital.

APPOINTMENTS.

Governor Roosevelt has appointed the following gentlemen to serve as trustees of the New York State Hospital for the Treatment of Incipient Pulmonary Tuberculosis: Howard Townsend, Manhattan, for the term of five years; John H. Pryor, Buffalo, for four years; Willis G. Macdonald, Albany, for three years; Walter Jennings, Manhattan, for two years, and Frank E. Kendall, Saranac Lake, for one year.

BILL FOR DRUG CLERKS.

The legislature has at last passed the bill granting shorter hours to drug clerks and guaranteeing to them certain privileges of importance to their health. The new law provides that in cities of one million or more inhabitants drug clerks shall not work more than seventy hours per week, or more than 136 hours in two consecutive weeks; that one hour shall be allowed for each meal; that they shall receive at least one full day off in two consecutive weeks, and that they shall not sleep in the drug store or in an apartment connected with such store.

APPROPRIATION DECREASED.

The action of the legislature in cutting down the appropriation for the State Pathological Institute for this year, from $36,000 to $20,000, means that the studies being carried on there will have to cease altogether, or that the scope of the work must be materially curtailed. The real reason for this action of the legislature is to be found in a difference of opinion between members of the lunacy commission regarding the character of the work done at the institute. Dr. Peter M. Wise, the head of the present commission, is a staunch believer in the old clinical method of studying insanity, while the past work of the institute has been purely experimental and largely speculative.

INSPECTION OF CHARITY INSTITUTIONS.

Mr. Elbridge T. Gerry has once more shown conclusively that he is a powerful and successful lobbyist, for his victory in the contest between his society and the State Board of Charities is generally conceded to have been the result of his personal influence and work. It will be remembered that last January the Court of Appeals decided that the Society for the Prevention of Cruelty to Children was not a charitable institution, and that the State Board of Charities had no right to inspect institutions which are supported by private benevolence. This decision was so unexpected and so sweeping in its effect that a motion for a reargument was made. The Court of Appeals has, by a vote of 4 to 3, denied this motion, thus confirming the former opinion. This will have the effect of greatly crippling the powers of the State Board of Charities. It is estimated that 600 charitable institutions in the state will thus be freed from the inspection of the board.

New York City.

A case of elephantiasis in a woman of 48 years, a resident of New York City, and a native American, is now being treated in the Bellevue Hospital.

Drs. George B. Fowler, ex-commissioner of the health department, and E. R. L. Gould, have been appointed by the governor on the Tenement House Commission.

The friends and professional associates of Dr. A. Jacobi are arranging for a fitting celebration of his 70th birthday, next month.

One of a group of acrobats, while attempting a triple somersault fell and dislocated the sixth vertebra. Dr. B. Farquhar Curtis cut down on the injured part, and reduced the dislocation. The vertebral column was then supported by a plaster-of-Paris jacket, and there is every indication that the operation will be a success.

Among the missionaries present and to speak at the Ecumenical Conference, April 21 to May 1, is Dr. Jacob Chamberlain, who began his work in India in 1859.

NEW MT. SINAI HOSPITAL.

A gift of $200,000 has been made for the new Mt. Sinai Hospital, for the erection of a special building as a memorial to a deceased member of the family of the givers. This makes the total amount promised for the proposed buildings more than $1,500,000, leaving only about $400,000 to be provided for. Other recent gifts include $125,000 for a children's pavilion, $20,000 for an operating theater and $55,000 for a dispensary building, the three latter also being memorials.

UNSANITARY HOSPITAL.

The unsanitary state of Gouverneur Hospital is just now attracting the attention of the public, and well it may, for there are several inches of water in the cellar, and this is the third time in the past few months that the basement has been flooded. Superintendent O'Rourke is disposed to make light of it, and says that it is no worse than most other buildings in that part of the city. The old building was long ago condemned for hospital purposes, and a new building has been erected, but owing to some trouble with the contractors it remains unfurnished and unoccupied.

CHEST ABNORMALITY.

An Italian, 42 years of age, a patient at the Long Island College Hospital, is exciting much interest among the physicians and surgeons there because of a peculiar developmental abnormality of the chest. It is reported that after an X-ray examination it was determined positively that on the right side of the thorax three ribs are only partially developed, and, as a result, there is an area measuring four by three inches in which the bony wall is lacking. The man insists that this strange deformity has not materially interfered with his work.

ILLINOIS.

Chicago.

Dr. E. J. Senn will return from his wedding tour June 1.

Dr. Truman W. Miller, who has been suffering from la grippe for the past six weeks, is now convalescing.

Dr. Charles H. Beard has been appointed a member of the international jury of awards at the Paris Exposition.

It is reported that nearly half of the Red Cross Ambulance Corps, which was organized in this city, deserted the corps and took up arms in behalf of the Boers, on their arrival in the Transvaal.

The total mortality during the past week was 561, an increase of 3 over the week preceding. The infant mortality was 24 in excess of last week. Pneumonia claimed 125 victims, and consumption 52.

INDIANA.

HOSPITAL ADDITION.

A joint meeting of the members of the Indianapolis Board of Public Works and of the Health Department was held April 14, to investigate the needs of the city hospital. It was decided to erect, if possible, a new wing on the east and north sides of the present building, to be 40 feet wide and 135 feet long. The wing will be similar in construction to the rest of the building. It was also decided to build a new contagious disease ward.

WISCONSIN.

Dr. C. L. Kissling has been appointed a member of the Milwaukee School Board.

A public hospital will shortly be established by the Madison Hospital Association, which has purchased four lots in the city for this purpose.

NEW JERSEY.

The sum of $50,000 has been appropriated for building a new wing for the reception of female patients at the State Hospital for the Insane, Morris Plains.

Anthrax is reported in Salem County, and four cattle belonging to one person have been killed. The daughter of the owner is believed to have become infected by drinking milk from the diseased animals.

The annual meeting of the Bridgeton Hospital Association was held in Bridgeton, April 17. Since the opening of the hospital last June, 67 patients have been treated and 50 operations performed. Receipts from all sources were $3207.57, and at the present time there is $753.53 in the treasury.

MISSOURI.

PATHOLOGY SPECIMENS DESIRED.

Dr. Hugo Summa has been appointed to arrange the individual exhibit of the state in the pathologic section at the Atlantic City meeting of the American Medical Association, Missouri being allowed an exhibit of not more than one hundred specimens. Dr. Summa requests the members of the profession of the state to inform him of their willingness to loan rare or important specimens for this purpose. Each specimen should be plainly labeled, with the diagnosis of the lesion, the contributor's full name and address and the number corresponding with the accompanying case history. Professor Summa will be glad to furnish any particulars that may be desired. His address is 2249 St. Louis Avenue, St. Louis.

SPECIMEN FROM HIP-JOINT.

An interesting specimen was presented at a recent scientific session of the St. Louis Medical Society—bone removed from the hip-joint by resection—doubly interesting as involved in a case of malpractice brought against two homeopathic physicians of St. Louis, connected with the Good Samaritan Hospital. The point was thoroughly discussed as to the propriety of physicians giving testimony as experts on one or the other side of such cases, Dr. Fairbrother questioning the advisability of giving such evidence and Dr. Broome maintaining that while it was a delicate question, yet there were cases where no honorable physician could decline to give evidence when called on, no matter whose interests the evidence might affect.

INCREASED CHARTER RIGHTS.

There having been an impression in the St. Louis Medical Society for some years that it did not have full power to expel members guilty of unprofessional conduct, on account of the fact that some years ago an expelled member secured a mandamus, from the courts, demanding his reinstatement, the officers of the Society last week made application to the circuit court for greater powers and [illegible] lines. The court granted an enla [illegible] rights. The real cause of the Circui [illegible] in the case of Dr. Adam Hammer, granting him the injunction for which he applied against the St. Louis Medical Society for expelling him, was not based on the ground that the Society did not have the right to expel him, but that it had appointed a committee to investigate his case and that he was tried not by the Society, but by the "committee on ethics," and that a committee composed of a limited number might easily be prejudiced, so that the member should be tried in an open session of the Society, with full opportunity for presenting his defense. This decision of the court should have prompted the Society to have pursued this method in other succeeding trials against recalcitrant Fellows; instead it gave them a case of fright and non-action was the result.

CALIFORNIA.

THE MONTHLY report of the Oakland Board of Health shows that there have been thirty cases of contagious diseases in the city during the past month. No deaths therefrom have occurred.

THE ALAMEDA Board of Education has adopted a rule forbidding employment as a teacher in the public schools of any person who is afflicted with tuberculosis.

CLAIRE C. YOUNG, assistant demonstrator of chemistry in the medical department of the University of Southern California, Los Angeles, had the misfortune to lose his right eye through an explosion which occurred while he was demonstrating phosphureted hydrogen. The eye was so much injured that enucleation was necessary; the left eye was not affected.

MASSACHUSETTS.

THE DIRECTORS of St. Mary's Infant Asylum and Lying-in Hospital have decided to erect, on the grounds of the institution, a larger and more commodious building, to be used exclusively for children. It will be five stories high, 100 feet long and 50 wide.

Washington.

ACCORDING to the report of the Seattle Board of Health, the month of March witnessed more deaths than any month this year. There were twenty deaths from pneumonia. Forty cases of scarlet fever were reported.

CANADA.

SEVERAL CASES of actinomycosis were discovered last week among cattle near Montreal.

DR. LEVERETT PRICE, Monckton, N. B., who went to South Africa with the second contingent, has been given a position by the Imperial Government, at St. Helena, to help look after the health of the Boer prisoners.

THE CITY health officer of Winnipeg reports that city as freer from contagious diseases than for many years. There are at present no cases of infectious diseases in the city.

THE REPORT of the resident physician at the Victoria (B. C.) Jubilee Hospital, shows that, on March 31, there were 37 patients; admitted during the month, 53; treated, 90; discharged, 45; deaths, 5.

IMMIGRANTS landing at St. John, N. B., are being subjected to a very strict surveillance, as it is believed that some of the foreigners afflicted with favus, to whom the U. S. authorities refused passports, have found shelter in St. John and also in Sydney, C. B.

SCARLET FEVER still continues very prevalent in Montreal. The Civic Hospital is full of these patients. The health department attributes the prevalence of the disease to the filthy condition of the streets of the city. Several new cases of typhoid fever have also been reported during the last week.

TORONTO UNIVERSITY ALUMNI.

Graduates of the provincial university, from all over the province, assembled in the chemical building of Toronto University on the evening of the 17th, for the purpose of organizing an alumni association. During the course of the remarks of President Loudon, who was called to the chair, he stated that the graduates of the University in all departments numbered something like 10.000, and that heretofore they had been as so many units, not in a position to promote the interests of the University hence the need for organization. A draft constitution was unanimously adopted and, as evidence of the part which the medical department will take in the organization, Dr. Reeve, the dean of the faculty, was elected the first president of the association, and Dr. Otto Klotz of Ottawa, the first vice-president. Several medical graduates were also elected on the Council.

THE MEDICAL COUNCIL OF CANADA.

A draft of the proposed Act to incorporate the Medical Council of Canada has been published, and deals in detail with the purposes, etc., of this long-sought-for end. The composition of the Council is identical with the published statement reported in THE JOURNAL early last fall, viz., three members from each province of the Dominion (the Northwest Territories being counted as a separate province), these to be chosen as follows: One from each such province shall be appointed by the Governor-General-in-Council, one from each such province shall be elected from each such medical council of such province, and the president of each provincial medical council shall be *ex-officio* a member of the Council. The term of office for appointed members shall be four years. The Council may acquire and hold such real estate and personal property as may be necessary, the annual value not any time to exceed $100,000. The officers are to be a president, a vice-president, an executive committee and a registrar, who may be secretary and treasurer. The first meeting will be held in Ottawa, and thereafter as the Council decides. It will have power to appoint a board of examiners to be known as "The Medical Council of Canada Examination Board." The proposed bill provides for two classes of examinations, viz., the preliminary or matriculation examination and the professional examinations. Candidates may elect to be examined in the English or in the French language. All of the practical and clinical examinations shall, until otherwise decided by the Council, be held in Montreal and Toronto, alternately. Registration according to this bill is similar to that already outlined in THE JOURNAL referred to. It is stated that several French practitioners in the Province of Quebec are not in favor of the legislation.

TORONTO ASSOCIATION FOR PREVENTION AND TREATMENT OF CONSUMPTION.

While this association has commenced an active campaign looking toward the establishment of sanatoria in and about the city, and further doing something toward educating the people as to the prevention of this disease, there are not a few who assume that it will and does antagonize the work of the National Sanitarium Association, as already manifested in its work at Gravenhurst. In sending out its constitution and literature broadcast throughout the province of Ontario, the Association seeks to complete and perfect its organization, and in addition secure a large membership. In it the clergymen of different denominations seem to figure prominently, several medical men and not a few laymen, also exerting themselves in its behalf. The prosecution of the work is an indication of the interest the community is commencing to display in the prevention and treatment of tuberculosis. The provincial secretary of health, Dr. Bryce, has stated that he is in accord with the objects of the Association. From the address which Dr. Sheard delivered at the last meeting of the executive, it is evident that the city medical health officer favors undertaking this work on a larger scale than by the experimental and piecework plan. The first general meeting of the Association was held in Toronto on the 23d.

HAWAIIAN ISLANDS.

THE SUSPICIOUS case of illness reported early in the month from Hilo proved not to be bubonic plague.

THE TWO cases reported as plague, at Makao, Koolau, on the 6th, proved to be other than this disease.

REPORTS FROM Kahului, Maui, March 21, show there had been no case of plague reported for twenty-four days.

Honolulu.

A PUBLIC morgue is to be built, the Board of Health having appropriated $10,000 for the purpose.

THE EXPENSE lists now being rendered, for "necessaries" in stamping out the plague, include many things usually considered luxuries—everything, in fact, from soda water, cigars, liquors, etc., to an enameled bath tub at $40.

DR. WOOD, president of the Board of Health, largely through whose efforts the plague epidemic in the islands was stayed, proposes to resign from the Board.

THE AVERAGE expense for fumigation and disinfection for March was $25 a day. It is estimated that the average will be $22 a day for April.

FOR INOCULATIONS by Haffkine's prophylactic serum, at $2 per capita, the Board of Health has taken in $1640.

THREE PARTIES have been fined $25 each for adulterating coffee, and one $5 for selling oleomargarin without a label.

DR. CHAS. A. PETERSON has retired from the position of call physician to the Board of Health, and will resume his former duties as inspector of immigrants.

CERTAIN OF the rice and taro patches in the city limits have been ordered filled to grade level, by the Board of Health, for sanitary reasons.

AT A MEETING held by the Victoria Hospital Association, the by-laws for the Hospital for Incurables were discussed and adopted and officers elected for the ensuing year.

DR. CARMICHAEL, of the U. S. Marine-Hospital station, has furnished the health authorities with 2000 doses of antipest serum, as the supply at the headquarters of the Board of Health was very low.

ABOUT 800 Japanese have petitioned the Board of Health to remit their taxes for 1900, as they are unable to pay them on account of the hardships suffered from the burning of Chinatown during the plague epidemic.

THE MORTALITY report for March gives 112 deaths, consumption leading the list with a total of 21, while bubonic plague is credited with 6. The deaths from typhoid fever numbered 19. As usual, the greater mortality was among the Hawaiians.

REPORTS on April 9 show that no cases of plague had been reported here for eight days, the first record of two Sundays passing with no cases reported, since the beginning of the epidemic. The seventy-first case was reported on the 2nd, the patient being a white girl 13 years of age.

NINETY-SIX inspections of milk samples taken on the street were made during February. The highest percentage of solids found was 12.5, the lowest 9.75; the highest percentage of butter fat 3.5, the lowest 1. The policy of warning milk dealers on first offense has been continued and sixteen warning letters sent out.

QUEEN'S HOSPITAL.

There are at present 68 patients in the hospital, 27 being Hawaiians. Those admitted during the past quarter numbered 185, 66 of whom were Hawaiians, 7 Chinese, 21 Japanese, and 91 other nationalities. Of these 166 were discharged and 27 died. The causes of death were: abscess of liver, anemia, asthma, cancer of stomach, fracture of skull, gangrene, peritonitis and stab wound, each 1; pneumonia, 7; meningitis, 6; railroad injury, 2; typhoid fever, 3. There were 9 major and 5 minor operations and three post-mortem examinations.

RATS AND THE SPREAD OF PLAGUE.

The efforts of the Board of Health to bring about the destruction of rats and so avoid dissemination of the plague, have not met with the results desired. Chickens, Chinese and children seem to have eaten about as much of the rat poison placed throughout the city as did the rats, and the smallness of the bounty allowed for dead rats has been another factor in preventing their general destruction. The Board has therefore decided to appoint a "professional rat-catcher," and one Duval, a Frenchman, has completed a device for corralling the rodents, and has been authorized to make six rat-traps after his pattern at the Board's expense, experiments to be made therewith before he is officially appointed.

LOSSES FROM PLAGUE MEASURES.

On April 7 the Court of Claims to take evidence on losses caused by the burning of Honolulu's Chinatown and to make awards and judgments on such losses, was appointed by President Dole. It consists of a presiding member and four associates. The chamber of commerce took action opposing the appointments on the grounds that the appointees were all lawyers and that plague losses should be adjusted by business men. A mass meeting was also held by the Chinese and Japanese, who passed resolutions to the effect that no claims for damages should be presented to the court for adjustment, as under the existing rules, justice could not be obtained. An appropriation bill presented to the Council of State, providing for the expenses of the recently appointed court was tabled. Some of the members have offered to serve gratuitously.

April 9, 1900.

Correspondence.

The Rich Specialist.

DETROIT, MICH., April 10, 1900.

To the Editor:—The following letter has given me an opportunity to express my views on the subject of the big fees received by specialists. We often hear from general practitioners, in a jocose manner, and sometimes with an envious expression. about the fees received and the money accumulated by specialists. I have frequently talked with those of the latter class in the various departments of specialism, and have been convinced for many years that very few are getting rich. Perhaps it is their own fault. They spend too much, and still, to keep in the front rows, they must do it or drop by the wayside. As soon as they strive to make money and cease trying to advance and improve the practice of medicine, their usefulness as teachers ceases. Few are so situated that they can be workers, innovators, and financiers at the same time. In fact, the whole question of financial success is to a great extent a personal one. It is a question of personality and, as a rule, the great men of the world have not been successful financiers.

BROOKLYN, MICH., February 12, 1900.

DR. J. H. CARSTENS,
DETROIT, MICH.

Dear Doctor:—Can you give me, without too much trouble, the number of hysterectomies and laparotomies you performed during the year 1899, in which you received no fees? I am preparing a reply to the speech of the Hon. L. D. Watkins at the Association of Farmers Clubs, at Lansing, in which he uses your charges in Culver and Dunn cases as an argument—"to regulate the fees of physicians by law." Yours truly,

E. N. PALMER, M.D.

DETROIT, MICH., March 1, 1900.

DR. E. N. PALMER,

My Dear Doctor:—In answer to your letter, I will say that you have my reprint reporting 234 cases of abdominal sections during 1898. (I made an error in addition. The reprint gave ten less than the actual number.) Of these, 83 paid. The rest of them I did for nothing or received a small consultation fee only, when they first saw me. I have just looked up last year's work as you requested. You remember I was sent as delegate to the International Congress of Gynecologists at Amsterdam and was away nearly three months, and lost at least a month before and after in my work, so that for 1899, I can only figure that I did two-thirds of the work. In hastily looking over the records—there might be a mistake in a case or two—I find that during that year I operated on 172 cases of abdominal sections of various kinds. Of these, 52 paid as follows: 1, $600; 2, $300; 2, $250; 5, $200; 6, $150; and 36 paid $100. The latter seems to be the usual figure that people expect to pay, and that they are told by their family physicians they must expect to pay. This is entirely wrong. If able, they ought to pay a great deal more.

Besides this, there were 16 patients who agreed to pay but did not, and I gave the bills to a collector and he did the best he could and compromised, taking for the bills whatever he could, from $10 to $50. Seventeen of the non-paying patients also paid me a consultation fee of $5, $10, or $25, when they first saw me, but when it came to the operation, they were unable to pay. I never agree to do abdominal section for less than $100. I will do it for nothing, for glory and love of the race, but I will not belittle such an operation by accepting $25 or $50, as some are very glad to do. I try to uphold reasonable prices.

According to our fee-bill, abdominal sections are placed on the list as $500 to $3000 operations, but certainly in this city no such fee as the latter figure has ever been paid. If I think people are able, I charge them the minimum fee-bill price, but generally I find that people are not as rich as they appear to be. They keep up appearances on a limited income, and I am obliged to take half. With people in fair circumstances, who have permanent positions or an income of about $2000, I always insist that they pay $150 or $250 for an operation, but the mass of your patients have small incomes, from $50 to $65 a month, probably with a large family, and for them it means quite a hardship to pay even $100 when you add to it the hospital expenses. They probably have to pinch and economize for two years to make it up. So that, as I stated above, a great number can only pay $100. What would you do with all the other poor patients? Here comes a working man with appendicitis. If he is not operated on, I am sure he will be dead in twenty-four hours. I try to save his life. He earns $1.25 a day and he has six children. How he must save during the next year to pay for his three weeks hospital expenses! Here comes a poor "schoolmarm" from the country, who earns $15 a month and has a fibroid tumor. Do you suppose I have the heart to send her home and tell her that she must have $150 or $200 first, before I can operate on her? You know I have not, but operate. Here comes the poor widow with three children, working in a store, or as a cook in a hotel, eking out an existence. Can I charge her, or can I charge the riff-raff, the paupers, sent in at the county's or state's expense?

So you see that I average less than $50 apiece for my work in abdominal surgery. It all seems great at a distance, but when you are doing the work yourself, you will find it is entirely different. They hear of isolated cases paying a fair fee, and expect they all do. Certainly if they would all pay $500 or even half that much it would be an immense income. But when you consider that my expenses, office rent or interest, my horses and coachman, stenographer, printing, stamps enough to support a family, books, instruments, reprints, having plates made, photographs, making experiments, and paying men to do them for you, attending medical societies all over the country, keeping posted and trying to be up to date; that all these things cost me about $7000 a year, and that before I have even anything to eat or clothes for my family, then you can readily see that the specialists are not getting rich very fast. In fact, they often have to look out to pay their running expenses.

In fact, my dear doctor, I have often stated that if I wanted to make money and be easy and comfortable and not have to worry, nor have a dozen men pulling at my coat-tails and trying to pull me down out of pure envy and cussedness, if I wanted to lead a nice comfortable life and leave my family in good circumstances, I would be a general practitioner—or a farmer. I could do away with nearly all the expense, keep a few good journals, keep well posted and up to date, treat everything that comes along, charge a fair fee and get my money; if I had a special case which I could not handle, turn it over to a specialist in whatever department it belonged.

From my observations I have found that the men who do general practice have the best financial success. They have less worry and anxiety, calling in counsel to share the responsibility when they have a difficult case. In the long run they make the most money.

The few *real* specialists I know simply make their living, and sometimes have trouble to do that. They spend too much trying to advance the practice of medicine and teaching their fellow-practitioners newer methods, newer views of treatment and prevention of disease. *The lot of the innovator is always a hard one.* The leaner or the one who floats with the stream does not have to exert himself very much. I sometimes ask myself, "Does it really pay?" I often have my doubts.

You will remember that for nearly twenty-five years I was a general practitioner, that after a dozen years' practice I drifted to a great extent into obstetrics, having as many as 200 cases a year, and this prevented me, in the course of time, from doing much general work. In the process of evolution, my practice developed into abdominal surgery. When I had to do more abdominal surgery, it was impossible for me to do an operation and do justice to the patient if I was up all night with a case of confinement. So I finally, about ten years ago, gave up all general practice and obstetrics and have absolutely limited my practice to abdominal surgery and gynecology.

The large general and obstetric practice which I have given up has been distributed among the physicians of the city. There is not one, I believe, who does not have a patient I formerly had, or has not a case of obstetrics in the course of a year which I would have if I was still competing with him, and when I see some of these same men who have increased their practice and income because I am not competing with them; when I see these men take their cases to men who are competing with them in different lines of practice, I then ask myself, "Does it really pay to be a REAL specialist?"

Why should you not be a general practitioner or a general surgeon and treat anything that comes along? For instance: measles or whooping-cough, if it is in the grandchild of a millionaire; or dyspepsia or throat troubles or conjunctivitis, if the patient is wealthy; why should not I treat ingrowing toe-nails, chancres, or simple fracture, if the patient can pay a good fee?

There are all kinds of sides to the question. Again, when I have physicians bring their wives, or their daughters, or their sons, to me for operations (and if there is any kind of cases I delight to treat and help, it is these of my professional friends), I operate on them with great pleasure and take great pains, but when in the future these same physicians forget to send me other patients who might pay or, even if they did not pay, simply show their good will; when they forget to do this, then again I ask myself, "Does it really pay?" They do not mean any harm. They feel grateful but they are thoughtless. They allow patients who can pay to pass out of their hands and drift somewhere else. I would remind you that they are not all that way by any means, but we meet them quite often. But when some physicians ask a percentage of my fee, then I rebel and talk right out; despicable and discouraging, is it not?

Perhaps I could get better prices. It may be my own fault, but I will not be imposed on if I can help it. I insist on a good fee if people can pay, but will not take people aside, and the first question, ask, "How much can you pay for this?" I never ask them. If they ask me how much I charge, I tell them that we will settle it after the operation, but expect them to pay a fair fee, according to circumstances. After the work is done, I try to find out their financial condition and charge them accordingly. Once in a while they lie and impose on me, but not very often.

There is another thing I abhor, i. e., to have some wealthy persons edge up to me and say: "How much will you charge?" I tell them: "Why do you ask me how much I charge? Why should you not write out a check for a fair amount, as is the custom to a great extent in Europe, and say, "Here, my dear doctor, I am under everlasting obligations to you for saving my life (or that of my wife, or daughter, or son, or whatever it may be) and here is an honorarium to help you along in your noble work." Then people stare and open their eyes. They can not understand it. They say they are not philanthropists. They are willing to pay a fair fee, but they do everything on business principles. It makes me "tired" sometimes, as the boys would say. I wish they had less "business principles" (which means mathematical calculations of interest and filthy lucre), but had more sentiment, gratefulness, and the milk of human kindness.

. . . I have the figures of my own practice and can make that a basis for argument. Mine is simply a reflex of other *real* specialists. I know that *real* specialists, be it in laryngology or neurology, be it in ophthalmology or orthopedic surgery, be it in dermatology or gastroenterology, are all the same. They can tell you about the same story that I have, except a few who are in very large medical centers. I can show you that the *honest real specialist* does not get rich from his practice. The, what you might call, "pseudo-specialists," who *pretend* to be specialists but who treat anything that comes along, provided there is money in it, may be a great financial success, but those who try to contribute their mite to the advance of the science of medicine, are to a great extent financial failures. But we are not discouraged. We keep on in the chosen path with the motto, *Speramus meliora*—"we hope for the better"—that some time in the future we may find somebody whose gratitude will be greater than his love for money.

My dear doctor, I am as optimistic as ever. I am perfectly satisfied. I find a great deal of glory in the practice of medicine. Some of the greatest fees I ever received were the grateful tears of patients. I find, after all, there is a good deal of gratitude. I am under a world of debt to members of the medical profession who have encouraged and supported me by sending me patients; those members who are honest and uphold the Hippocratic oath, "The highest good of our patients shall be our constant endeavor;" those members of the profession whose continual effort is to relieve suffering humanity. who are honest and, if they do not have the facilities to treat the patients themselves, carefully look around and select whom they think is the most competent; men who never think of self but of the good of the patient, who never ask for percentage but ask that the patient have the best care. I have any number of such noble friends, who continually send good paying patients to me and for whom I have never been able to do any favor. I often feel guilty, but some time hope to reciprocate, and be able to do them favors.

I take special pains to instruct the patients to return to the physician who sent them to me, for after-treatment, often giving them a note or sending a letter direct. It happens, however, occasionally, that the patients do not want to return. They have become vexed at something, and think they have been neglected. They have all kinds of notions. I am obliged to defend the physician and insist that they return for after-treatment. Thus I try to uphold the reputation of the general practitioner and save his patients to him. I *try* to be a *real* specialist.

In the meantime, I try to keep up the good work, and hope that the time will come again, when this wild struggle for the mighty dollar will lessen, and men will be gauged by the good deeds they do, by their mental capacity and not by the amount of money they can make.

Your truly,
J. H. Carstens, M.D.

National Therapeutic Society.

Washington, D. C., April 16, 1900.

To the Editor:—The attention of the Therapeutic Society of the District of Columbia having been called, through several articles recently published, to the formation of a national therapeutic society, at a recent meeting it was decided to take the initiative steps, with representatives of other therapeutic societies, looking toward the formation of such a national body. I have been instructed to ask that The Journal aid us in this movement. We would suggest that all therapeutic societies, or as many as desire, throughout the United States, elect and send delegates, with such an object in view, to meet in this city, May 1-4, at the time of the meeting of the Association of American Physicians. The Eighth Decennial Convention for Revision of the U. S. Pharmacopeia holds its session here at the same time. The D. C. Therapeutic Society will be pleased to meet all such delegates at the medical department, National University, No. 1328 I Street, N. W., on Tuesday, May 1, 3 p. m., to take preliminary steps in this direction.

D. Olin Leech, M. D., Corresponding Secretary,
Therapeutic Society, District of Columbia.

Paris and the Midnight Sun.

Members of the Association who intend crossing the Atlantic to be present at the Thirtieth International Medical Congress should read the following, which explains itself:

War Department, Surgeon-General's Office.
Washington, D. C., April 13, 1900.

Henry Gaze & Sons, 113 Broadway, New York, N. Y.

Gentlemen: I have received your circular headed "Paris and the Midnight Sun" and stating that a committee has been organized to arrange for this trip. Will you kindly inform me by what authority my name has been included among the members of this committee? I have no knowledge of my appointment upon such a committee, or of such a committee having met to consider the matter referred to, and I have no intention of making the trip which you advertise.

Very truly yours,
Geo. M. Sternberg, Surgeon-General, U. S. Army.

Association News.

The Official Program.—In order to avoid misunderstandings and to protect the interests of advertisers, attention is called to the fact that there is but one official program. This program is copyrighted by the Board of Trustees and contains no advertising matter.

Section on Obstetrics and Diseases of Women.—The program of this Section is now full. Wednesday morning, June 6, will be given up to a "Symposium on Obstetrics;" Wednesday afternoon to one on "The Relation of Pelvic and Intra-Abdominal Diseases to Nervous Diseases." Thursday morning, June 7, will be devoted to the subject of "Cancer of the Female Generative Organs, Including the Breast;" Thursday afternoon to "Inflammatory Diseases of the Female Genitalia." The afternoon of Tuesday, June 5, and the morning of Friday, June 8, will be devoted to general papers.

Amendments to Constitution.—The following was offered by Dr. Dudley S. Reynolds, Louisville, Ky., at the last meeting of the Association: Proposition to amend Article 2 of the Constitution, by adding to the qualifications of membership in those societies eligible to send delegates to this Association. After the words "Marine Hospital Service of the United States," at the conclusion of the second paragraph; provided, however, that no State, county or other auxiliary body sending representatives shall receive into its membership any one who may after 1900 have received the degree of Doctor of Medicine on less than four years of graded instruction or an equivalent rerequirement (laid over for one year).

Committee on National Legislation.—Attention is again directed to the call to the National Legislative Conference of the Association, to be held in Washington, May 1 and 2 (see The Journal, April 21, p. 1019). The Chairman of the Committee on Arrangements of the Congress of American Physicians and Surgeons has extended an invitation to members of the National Legislative Conference to be guests of the Congress during the May meeting. Those wishing to accept this courtesy should call at the Bureau of Registration, in the Arlington Hotel, on their arrival in Washington, and on registration they will also receive cards to the reception, to the smoker to be given by the Cosmos Club on the evening of May 1, and the program for the meetings of the Congress. According to the by-laws, a physician may be accredited as a visitor by any one of the constituent societies and the certificate of the secretary of one of the societies that he is thus accredited will enable him to register on payment of the registration fee, but not to take part in the deliberations of the Congress.

Railroad Rates for Atlantic City Meeting.—The Committee on Transportation, of the American Medical Association, reports that the Trunk Lines Association has granted one- fare and one-third on the certificate plan, as the rate for the meeting in June. Tickets will be on sale in territory of these lines at this rate from May 30 to June 7, and are good to return to June 23. The Trunk Lines Association has invited the other railroad associations to concur in the rate and time limit. The Committee has been very much taxed in answering communications from nearly every section of the country suggesting means for securing a one-fare rate for the round trip on this occasion, and has adopted every expediency for securing the one-fare rate; but has been unable to obtain it. For the information of many of those who have written recently on this subject, we quote from the final communication from the Trunk Lines Association, dated April 4. After announcing the rate and time limit above noted, the secretary adds: "It is noted that you say it is still claimed by many, that the reduction of one fare should be granted for your meeting. I may state that your application has been twice before the Committee, and any greater reduction than fare and one-third on certificate could not consistently be granted; it would be a discrimination against other bodies." When the other railroad associations act on the rate, etc., of the trunk lines, the committee will make a full report announcing the rates throughout the states. H. L. E. Johnson, M.D., Chairman.

Section Headquarters at Atlantic City.—Following is a correct list of the hotels selected as headquarters for the different Sections. These hotels, with two exceptions, are all located on the board walk, directly fronting the ocean, and are considered the best hotels. Every effort will be made by the proprietors and their managers to furnish proper and pleasant accommodations to all who elect to stop with them. Each Section has been located separately, with a view of avoiding the crowding and general annoyance that has characterized a number of the previous meetings. The hotels are all well located and are comparatively near the place of registration and the general meetings in the assembly hall, as well as the meeting places of the different Sections, hence no member need hesitate to arrange his accommodations at the one selected as the headquarters for his Section. The names and addresses of the presidents and secretaries of the different Sections have been placed in the hands of the managers of the respective hotels, and the latter have been requested to correspond with the former, asking for a list of the Sections' membership, that they may address each member and ascertain early about how many will be in attendance, and acquaint themselves as near as possible with the desired accommodation expected by each individual. Every member of the American Medical Association and all other physicians who expect to be in attendance should arrange for their quarters as soon as possible, as this will assure to them satisfactory accommodation and avoid disappointment at the last moment.

American Medical Association, Hotel Dennis.
American Academy of Medicine, Hotel Shelburne.

SECTION HEADQUARTERS.

Section on Practice of Medicine, Hotel Traymore.
Section on Surgery and Anatomy, Hotel Windsor.
Section on Obstetrics and Diseases of Women, Hotel Garden.
Section on Materia Medica and Therapeutics, Hotel Luray.
Section on Neurology and Medical Jurisprudence, Hotel Brighton.
Section on Ophthalmology, Hotel Haddon Hall.
Section on Laryngology and Otology, Hotel Seaside.
Section on Physiology and Dietetics, Hotel Ilsesworth.
Section on Diseases of Children, Hotel St. Charles.
Section on Cutaneous Diseases, Hotel Rudolph.
Section on Stomatology, Hotel Senate.
Section on State Medicine, Hotel Pennhurst.

Deaths and Obituaries.

S. E. Sheldon, M.D., Topeka, Kan., died of heart disease, April 19. He was born in Carlisle, Ohio, in 1837, receiving his early education at Baldwin University. He was graduated from the Cleveland Medical College in 1860. He entered the army as assistant surgeon of the 32d Ohio Vol. Inf., in 1862, being transferred to the 104th Ohio the next year and promoted to surgeon with rank of major, serving with that regiment to the close of the war. He was taken prisoner at Harper's Ferry in 1862, afterward exchanged, and was with Sherman's army at the siege of Atlanta. He was also a prominent member of the Masons, created Knight Templar in 1869 and in 1876 elected Grand Commander of Kansas. He was a resident of Topeka for many years and at one time represented that city in the state senate. He was professor of gynecology in the Kansas Medical College, a member of the Western Surgical and Gynecological Association, and a prominent figure at the meetings of the state and national organizations.

James Stansbury Martin, M.D., died in Baltimore, Md., April 14, aged 76. He was born in that city April 2, 1824, being the son of Dr. Samuel B. Martin, a surgeon of the War of 1812. He was educated at the Baltimore College, took his M.D. at Washington University, Baltimore, in 1844, and was resident physician to the Baltimore Almshouse, 1846-7. He resided in California from 1849 to 1855, and was surgeon to the Pacific Mail Steamship Company, and founder of Sutter's Fort Hospital. He returned to Baltimore in 1859, where he remained until 1861, when he removed to Brookville, Md., and practiced there four years. He then returned to Baltimore, where he remained until his death. He was one of the oldest members of the Medical and Chirurgical Faculty.

John Joseph Crane, M.D., born in Elizabeth, N. J., in 1851, died April 18, in the Adirondacks, from tuberculosis, after an illness of two years. He was a graduate of Princeton University and. in 1876, of the College of Physicians and Surgeons, N. Y. He practiced medicine in New York City for twenty years. He was at one time an assistant surgeon in an Illinois state insane asylum.

James Guinan, M.D., President of the Nevada State Board of Health, died in Chicago, March 24, after undergoing an operation for stricture of the bowels. He was born in Manchester, Mich., and served with the 17th Michigan Infantry during the Civil War. He was a member of the Nevada State Board of Medical Examiners, and of the Association.

Isaac C. Haring, M.D., Albany Medical College, N. Y., 1850, died at the Nyack Hospital April 16. He had undergone an operation several days before. For fifty years he had practiced in Rockland County. West Nyack was his home for the past thirty years.

Charles E. Turner, M.D., committed suicide on the 17th, at his home near Rising Sun, Md. His mind is said to have been affected from ill-health. He was born in Chester Co., Pa., and was graduated from Jefferson Medical College, and was about 42 years old.

A. Baillie Price, M.D., University of Maryland, 1867, died at Frostburg, Md., April 15 of pernicious anemia at the age of 59. He was born in Charles County, Md., and was educated at Charlotte Hall Academy. He first practiced three years at Stephens City, then for a short time at Ocean Mine, and for the rest of his life at Frostburg.

Orson Buell, M.D., dropped dead April 15, at South Norfolk, Conn. He was entering his home just after a professional visit. He was 71 years old.

H. Dwight Bliss, M.D., Holley, N. Y., died April 13, aged 46 years. He was graduated from Jefferson Medical College in 1883.

Thomas P. Hossie, M.D., Queen's University, Kingston, Ont., 1878, died at Gouverneur, St. Lawrence County, N. Y., April 14, aged 41 years.

D. L. Mustard, M.D., died at Lewes, Del., April 2, aged 64. He leaves one son.

MARRIAGES.

Bolkcom—Gales.—Dr. G. W. Bolkcom and Mrs. Ella C. Gales, Cedar Lake, Wis., April 13.

Carter—Sherman.—Dr. Edwards Perkins Carter, Williamstown, Mass., and Miss Sarah Rathbone Sherman, Cleveland, Ohio, April 18.

De Neen—Rentz.—Dr. D. E. De Neen, Reily, Ohio, and Miss Laura Rentz, Winton Place, Ohio, April 11.

Senn—Laroussini.—Dr. E. J. Senn, Chicago, and Miss Alys Laroussini, New Orleans, La., April 24.

Slocum—Craver.—Dr. Charles E. Slocum, Defiance, Ohio, and Dr. S. Belle Craver, Toledo, Ohio, April 5.

Miscellany.

Acting Assistant-Surgeons, U. S. Army.—During the last session of Congress an effort was made to have the medical staff of the United States Army increased in proportion to the increase in the numerical strength of the army authorized at the beginning of the Spanish-American War. This effort failed, however, and chiefly because of the argument that when extra medical assistance is required for the army it can be obtained under the contract system. Under this system a medical man "promises and agrees to perform the duties of a medical officer agreeably to Army Regulations" for the sum of $150 per month, with quarters and the traveling allowances of a first lieutenant. From the governmental point of view a serious objection to this system is found in the inability of the United States War Department to secure experienced medical assistance under it. Young graduates in medicine are ready to take a contract for the sake of making a start in life and seeing something of the world; but when they have served long enough to gain experience in military methods and to be valuable additions to the medical strength of the army they hesitate to renew a contract which offers no promotion for continued service. A first lieutenant of the medical corps looks forward to a captaincy, with increased pay at the end of five years' service, but the surgeon on contract has no inducement of this kind. To remedy this Surgeon-General Sternberg has recommended the enactment of the following "Bill for the Appointment of Assistant-Surgeons of Volunteers:

Section 1. That "contract surgeons" who have rendered faithful and satisfactory service with the Army of the United States for a period of one year, and who have passed a satisfactory examination as to their physical and professional qualifications, shall be commissioned by the President as assistant-surgeons of volunteers with the rank of first lieutenant, subject to honorable discharge from the service whenever their services are no longer required.

Sec. 2. That at the end of two years' service as first lieutenants assistant-surgeons of volunteers, appointed in accordance with Section 1 of this act, who have rendered faithful and satisfactory service, shall be commissioned by the President as assistant-surgeons of volunteers with the rank of captain, subject to honorable discharge from the service whenever their services are no longer required.

In his letter to the Secretary of War the Surgeon-General urges that the proposed legislation be enacted during the present session of Congress, both in the interests of the service and in justice to the large number of contract surgeons who are now in the service and on whom, to a large extent, devolves the duty of caring for the sick of our armies at stations in the United States, in Cuba, in Puerto Rico, in Alaska and in the Philippines. He represents also that these acting assistant-surgeons, although serving as civilian physicians under contract, have all the responsibilities of commissioned medical officers, and that it is the natural and proper ambition of every one of them who has rendered faithful service to obtain a commission from the President of the United States. Owing to the small number of volunteer surgeons (34) at present authorized, few of the contract surgeons have any prospect of being commissioned under existing laws. So far as pay is concerned, an acting assistant-surgeon would be a loser if commissioned as an assistant-surgeon of volunteers with the rank of first lieutenant, as the pay of the lieutenant is less than that of the surgeon under contract. The bill submitted, however, proposes to promote those who have been in active service for three years to the grade of captain if their services have been faithful and satisfactory. This is a good bill. Its passage would remove many of what have been called the grievances of the acting assistant-surgeons, and would materially improve the efficiency of the medical department.

AMERICAN NEUROLOGICAL ASSOCIATION.

The twenty-sixth annual meeting is to be held at The Normandie, Washington, D. C., May 1-3.

Address by the President, Edward D. Fisher.
Christian Pseudoscience and Psychiatry. Smith Baker.
Imperative Ideas in the Sane and Their Management. Edward B. Angell.
Case of Wernicke's Conduction Aphasia, with Autopsy. Howell T. Pershing.
Case of Bullet Wound of the Spinal Cord. Joseph Sailer.
Contribution to Study of Plantar Reflex, Based on 750 Tests, Made with Special Reference to the Babinski Phenomenon. G. L. Walton.
Tumor of Superior Parietal Lobule, Accurately Localized and Remove[illegible] Charles K. Mills and W. W. Keen.
Case of P[illegible] th Autopsy. Charles L. Dana.
Autopsy [illegible] Dolorosa, with Microscopic Examination. F. X. Dercum.
Report of Committee on Neuronymy. Burt G. Wilder.
Comments on Current Figures of Mesal Aspect of Brain. Burt G. Wilder.
Studies in Astereognosis. F. X. Dercum.
Case of Adiposis Dolorosa, with Autopsy. Charles W. Burr.
Report of Case of Progressive Muscular Atrophy which Clinically Presented Symptoms of Amyotrophic Sclerosis. Joseph Collins.
Amelioration of Paralysis Agitans by Means of Systematized Exercises. J. Madison Taylor.
Epilepsy and Autointoxication. Smith Baker.
Anatomico-Cytologic Relationship of Neuron to Disease of Nervous System. L. F. Barker.
Pathologic Changes in Neuron, in Nervous Disease. William G. Spiller.
How Far Does it Affect Our Conception of Nervous Disease and its Treatment. B. Sachs.
Physiologic Significance of Size and Shape of Neuron. H. H. Donaldson.
Focal Cerebral Symptoms Without Gross Anatomic Changes as Seen in: 1, Uremia and, 2, Malaria. James Hendrie Lloyd.
Case of Malaria Presenting Symptoms of Multiple Sclerosis, with Necropsy. William G. Spiller.
Revised Interpretation of Central Fissures of Educated Suicide's Brain Exhibited to Association in 1894. Burt G. Wilder.
Regeneration of Cerebral Nervous System. Joseph Sailer.
Cases of Neurasthenia. Philip Zenner.
Communication on Comparative Study of Spinal Ganglia in Various Diseases and Ages. Adolph Meyer.
Obstetric Paralysis. H. M. Thomas.
Therapeutic Value of Sunlight in Neurasthenic Invalidism. Frank Hallock.
Report of Case of Brain Injury with Peculiar Whistling Spells Following Operation. William C. Krauss.
Erythromelalgia and Allied Disorders. B. Sachs and A. Wiener.
Case of Multiple Sclerosis, with Autopsy. Charles W. Burr.
Clinical Study of Reflexes. Joseph Collins and Joseph Fraenkel.
Clinical and Anatomic Analysis of Cases of Diffuse Myelitis. James J. Putnam and E. W. Taylor
Section of Posterior Spinal Roots for Relief of Pain in Case of Neuritis of Brachial Plexus; Cessation of Pain in Affected Region; Later Development of Brown-Sequard Paralysis in Area and Pain in Other Areas as Result of Laminectomy. Morton Prince.
Demonstration of a Few Reconstructions of Parts of the Nervous System. Adolf Meyer.
Two Cases of Tumor of Spinal Cord. John Jenks Thomas
Syringomyelia, with Exhibition of Microscopic Specimens. Graeme M. Hammond.
Prognosis of Hysteria. Joseph Fraenkel.
Relative Merits of *Metencephalon* and *Myelencephalon* as Designations of the Last (Oblongatal) Segment of the Brain. Burt G. Wilder.
Derivatives and Applications of the Word *Neuron*. Burt G. Wilder.
Exhibition of Dr. Stroud's Head-Rest for Removal of the Brain. Burt G. Wilder.
Some Unusual Types of Dementia Paralytica Theodore Diller.
Note on Occurrence of Multiple Neuritis and Beri-Beri in Alabama. E. D. Bondurant.

AMERICAN DERMATOLOGICAL ASSOCIATION.

The program of the twenty-fourth annual meeting, to be held at the Hotel Gordon, Washington, D. C., May 1, 2, and 3, is as follows:
Address by the President, H. W. Stelwagon.
Bullous Dermatitis (dermatitis Herpetiformis?) in Children. Five Cases Following Vaccination. J. T. Bowen.
Dermatitis Vesico-Bullosa et Gangrænosa Mutilans. G. W. Wende.
Loss of Hair: Clinical Study Founded on 300 Private Cases. G. T. Jackson.
Unusual Phenomenon of Syphilis: Othematoma. Jos. Zeisler.
Report of Committee on Nomenclature.
Case of Brocq's érythrodermie pityriasique en plaques disseminées. J. C. White.
Prophylaxis and Control of Leprosy in this Country. P. A. Morrow.
Case of Tinea Tonsurans Resembling Tinea Favosa, with Remarks. L. A. Duhring.
Frequency of Parasitic Diseases of the Skin, and Measures Advisable for Limiting Their Spread. W. T. Corlett.
New Type of Cutaneous Tuberculosis. J. C. Johnston and B. Lapowski.
General Discussion: Malignant Diseases of the Skin: 1. Their classification and clinical features. E. B. Bronson. 2. Their etiology and pathology. M. B. Hartzell. 3. Their treatment. F. J. Shepherd.
Endothelioma and Angiosarcoma of the Skin. J. A. Fordyce.
Etiology and Pathology of Cutaneous Cancers. A. Ravogli.
Report of Committee on Statistics.
Lantern-Slide Exhibit Illustrating 1. Some Clinical and Pathologic Features of Malignant Diseases of the Skin and Affections. J. A. Fordyce. 2. Clinical and Pathologic Features of Blastomycetic Infection of the Skin. J. N. Hyde and F H. Montgomery. 3. A Few Rare Diseases of the Skin. G. H. Fox. 4. Pathologic Features of Cutaneous Cancers. A Ravogli.
Case of Nevus Cancer; Metastasis; Operation; Cure. S. Pollitzer.
Syphilitic Lesions of the "Wheal" Type. H. G. Klotz.
Report of a Case of Multiple Tumors of the Skin. W. A. Hardaway and M. F. Engman.
Two Cases of Rhinoscleroma and an Unusual Form of Epithelioma of the Scalp. C. W. Allen.
Case of Xanthoma Tuberculatum Diabeticorum, Showing Rapid Disappearance of Lesions Under Antidiabetic Regimen and Treatment. S. Sherwell and J. C. Johnston.
Brief Report of Two Cases of Persistent Exfoliation of the Lips H. W. Stelwagon.
Case of Protozoic Dermatitis. D. W. Montgomery.
Blastomycetic Dermatitis and Its Relation to Yaws. I. Dyer.
Three Cases of Blastomycetic Infection of the Skin, One of Them Producing a "Tumor" of the Lower Lip. F. H. Montgomery and H. T. Ricketts.
Review of the Subject of Blastomycetic Infection of the Skin with a Report of Two New Cases. J. N. Hyde.
1. Some Experimental Observations on Urticaria Factitia; 2. Report of Case (Title to be Announced). T. C. Gilchrist.

AMERICAN GYNECOLOGICAL SOCIETY.

The twenty-fifth annual meeting of this Society is to be held in Washington, D. C., May 1-3, in the Columbian University. The program is as follows:
Address of Welcome. Joseph Taber Johnson, Washington, D. C.
Technique of Operations for Intraligamentous Tumors. W. H. Wathen, Louisville, Ky.
Fecal Fistulæ. I. S. Stone, Washington, D. C.
A Study of the Remote Results of Conservative Operations on the Ovaries and Tubes. W. L. Burrage, Boston.
Internal Secretion of the Ovary. A. W. Johnstone, Cincinnati, Ohio.
Techniques, Indications, and Ultimate Results of Suturing Round Ligaments to Vaginal Wall for Retroversions and Flexions of Uterus. Hiram N. Vineberg, New York City.
Comparison of Vaginal and Abdominal Operations. G. Richelot, Paris, France.
Demonstrations of Casts Illustrating the Anatomy of Pregnancy and Labor, also Models Used in Gynecologic Teaching. J. Clarence Webster, Chicago.
Combined Nephrectomy and Ureterectomy. E. E. Montgomery, Philadelphia.
Anastomosis of Ureters with Intestines. An Historic and Experimental Research. Reuben Peterson, Chicago.
Critical Survey of Ureteral Implantation. J. W. Bovée, Washington, D. C.
An Appreciation of Kelly's Method of Removing Fibroids of the Uterus. A. Lapthorn Smith, Montreal.

Migrated Ovarian Tumors. George M. Edebohls, New York City.
Best Method of Extirpating Fibroid Uteri. Howard A. Kelly, Baltimore, Md.
Bronchial Disease not Invariably a Contraindication for Ether Anesthesia in Abdominal Surgery. Thaddeus A. Reamy, Cincinnati, Ohio.
Treatment of Full Term Ectopic Gestation. Should not the Child Receive More Consideration? Edwin B. Cragin, New York City.
President's Address. G. J. Englemann, Boston, Mass.
Relationship Between Dysmenorrhea and Appendicitis. Archibald McLaren, St. Paul, Minn.
Clinical Data Relating to: 1. Urinary Toxemia. 2. Operative Treament of Uterine Displacements. 3. Ectopic Gestation. 4. Certain Complications of Uterine Fibroids. Egbert H. Grandin, New York City.
1. Demonstrating the Utility of a Certain Chart for the Determination of Pelvic Asymmetry from a Very Simple Method of External Pelvimetry. 2. Advantages of Employing a Certain Background in Photography of Pathologic Specimens. Philander A. Harris, Paterson, N. J.
Contribution to Management of Face Presentations, with Report of Two Cases. Malcolm McLean, New York City.
Pernicious Nausea of Pregnancy, with Report of Cases and Autopsy. E P. Davis, Philadelphia.

ANNIVERSARY EXERCISES.

Personal Reminiscences Associated with Progress of Gynecology. T. Addis Emmet, New York City.
Status of Gynecology in 1876 and in 1900. Alexander J. C. Skene, Brooklyn, N. Y.
Reminiscences of the Foundation and Early Years of the Society. James R. Chadwick, Boston.
Personal Factor in Work of American Gynecological Society. E. Van de Warker, Syracuse, N. Y.
Some Kaleidoscope Pictures in Rhyme. Thaddeus A Reamy, Cincinnati, Ohio.

THE AMERICAN GASTRO-ENTEROLOGICAL ASSOCIATION.

The third annual meeting of this Society will be held at The Shoreham, in Washington, D. C., May 1. The following papers are announced:

Occurrence of Mould in the Stomach and its Probable Significance. Max Einhorn.
Sugar, as such, in the Dietary of Dyspeptics. Wm. Gerry Morgan.
Concerning Nature of Biologic Cell Process in Malignant Neoplasms and Their Significance for Early Diagnosis of Cancer of Stomach. J. C. Hemmeter.
Appendix and Cecum from the Standpoint of the Gastro-Enterologist. A. L. Benedict.
Feeding the Sick. A. P. Buchman.
Starvation vs. Feeding in Diseases of the Stomach—Illustrated. Frank H. Murdoch.
Case of Cancer of Esophagus; Perforation Into Left Pleura; Death from Pyopneumothorax. Exhibition of Specimen. Julius Friedenwald.
Some Clinical Observations on Position and Topography of Stomach. G. W. McCaskey.
Remarks on Stenosis of Pylorus. Henry W. Bettman.
Report of an Interesting Case. E. G. Cutler.
Mechanics of Digestion. F. B. Turck
Epigaea. Charles D. Aaron.

AMERICAN CLIMATOLOGICAL ASSOCIATION.

The seventeenth annual meeting of the Association will be held in the banquet room of the Arlington Hotel, Washington, D. C., on May 1, 2 and 3. The sessions will be at 10 a. m. The program is as follows:

President's Address. Abraham Jacobi, New York City.
Modern Physician's Duty to His Tuberculous Patients. Frederick I. Knight, Boston.
Construction and Management of Small Cottage Sanatoria for Consumptives. Arnold C. Klebs, Chicago.
Report of Certain Cases of Tuberculosis Which Were Apparently Due to the Nature of the Soil. Richard Cole Newton, Montclair, N. J.
Educational and Legislative Control of Tuberculosis. Charles Denison, Denver, Colo.
Some Phases of the Tuberculous Problem in Colorado. Sherman G. Bonney, Denver. Colo.
Some Pe[illegible] Effect of Intrapleural Injection of N[illegible] H. P. Loomis. New York City.
Bacterio-[illegible] Reference to Tuberculosis. E. R. Baldwin, Saranac, N. Y.
Subsequent History of Patients Apparently Cured by Antitubercle Serum. J. Edward Stubbert, Liberty, N. Y.
Stomach Conditions in Early Tuberculosis. Boardman Reed, Philadelphia.
Phlebitis of Advanced Phthisis, with Report of Cases of Phthisis Following Abscess of Hand. R. G. Curtin. Philadelphia.
Diagnostic Value of Tuberculin in Tuberculosis. James S. Anders. Philadelphia.
Spleno-myelogenous Leukemia with Pulmonary Tuberculosis. Report of Case. H. L. Elsner and Wm A. Groat, B.S., Syracuse, N. Y.
Hydriatic Treatment of Tuberculosis. J. H. Kellogg, Battle Creek, Mich.
Petroleum Oil in Treatment of Phthisis. W. D. Robinson, Philadelphia.
Stamina: The Special Benefit of Fat, of one Kind or Another, as a Necessary Article of Diet to Fortify the System Against Tubercle Bacilli. A. N. Bell. Brooklyn. N. Y.
Inadequacy of Physical Signs as Indicating Gravity of a Pneumonia. Andrew H. Smith. New York City.
Blood Changes in High Altitudes. S E. Solly, Colorado Springs, Colo.
The Bath in Gout. Charles C. Ransom, New York City.
Case of Mural Endocarditis. Harold Williams, Boston.
Exercises Suitable for Children Suffering from Heart Disease. J. Madison Taylor, Philadelphia.
Prognosis in Disease of the Heart. James B. Walker, Philadelphia.
Report of Case of Dissecting Aneurysm Causing Death by Rupture Into Pericardial Sac. Judson Daland, Philadelphia.
Some Thoughts on Nervous System in Phthisis as a Basis for Treatment. Thomas J. Mays, Philadelphia.

AMERICAN SURGICAL ASSOCIATION.

The program of the next meeting, at the Columbia University Building, Washington, D. C., May 1-3, offers the following papers:

President's Address: "Perforating Ulcer of the Duodenum." Robt. F. Weir.

Gastric Ulcer: Non-perforating: Hemorrhage. Wm. L. Rodman, Philadelphia.

Perforating Ulcer of Stomach. J. M. T. Finney, Baltimore, Md.

Benign Obstruction of Pylorus. Frederick Kammerer, New York City.

Malignant Disease of Stomach and Pylorus, Wm. J. Mayo, Rochester, Minn.

Gastric Dilatation: Gastroptosis. B. F. Curtis, New York City.

Hourglass Contraction of Stomach, F. S. Watson, Boston.

Diagnosis of Cancer of Stomach. John C. Hemmeter, Baltimore, Md.

Traumatism of Stomach, including Foreign Bodies, Rudolph Matas, New Orleans, La.

Adhesions of the Stomach. A. T. Cabot, Boston.

Stricture of Esophagus following Typhoid Fever: Gastrostomy. Frederick S. Dennis, New York City.

A Series of Demonstrations on the Cadaver, illustrative of the Mechanism of the Various Dislocations of the Hip. Oscar H. Allis, Philadelphia.

Methods of Closing Abdominal Incisions. M. H. Richardson, Boston.

Strangulated Hernia through Traumatic Rupture of Diaphragm. Laparotomy. Recovery. E. W. Walker, Cincinnati, Ohio.

Case of Subpubic Hernia of Bladder through Pelvic Floor. Operation. F. B. Harrington, Boston.

Case of Acute Tuberculosis of Mesenteric Glands of Ileocecal Coil. Removal. Permanent Recovery. M. H. Richardson, Boston.

Successful Removal of Acutely Inflamed Tubercular Mesenteric Glands. J. W. Elliot, Boston.

Congenital Cystic Tumor of Pelvis. DeForest Willard. Philadelphia.

Extirpation of Very Large Aneurysm of Renal Artery. W. W. Keen, Philadelphia.

Carcinoma of the Rectum. John B. Deaver, Philadelphia.

Spontaneous Disappearance of Carcinoma of Lip. Union following Pathologic Fracture of Femur due to Secondary Carcinoma. Leonard Freeman, Denver, Colo.

Multiple Coccygeal Fibromata. H. R. Wharton, Philadelphia.

Removal of Seminal Vesical. N. B. Carson, St. Louis. Mo.

Complete Absence of Uterus and Vagina, with Creation of New Vagina. N. B. Carson, St. Louis, Mo.

Study of Twenty-four Cases of Laparotomy for Peritoneal Infection in Typhoid Fever. Reported by George B. Shattuck, J. Collins Warren, Farrar Cobb, Committee of Boston Society for Medical Improvement. Presented by J. Colline Warren, Boston.

BOOKS AND PAMPHLETS RECEIVED.

BOOKS.

Diseases of Genito-Urinary System. A thorough Treatise on Urinary and Sexual Surgery. By Eugene Fuller, M.D., Professor of Genito-Urinary and Venereal Diseases in the New York Post-Graduate Medical School. Cloth. Pp. 774. Price $5. New York: The MacMillan Co. 1900.

Medical Diseases of Childhood. By Nathan Oppenheim, A.B. (Harv.), M.D. (Col. P. & S., N. Y.). With 101 Original Illustrations in Half-Tone and 19 Charts. Cloth. Pp. 653. Price $5. New York: The MacMillan Co. 1900.

Refraction of the Eye. A Manual for Students. By Gustavus Hartridge, F.R.C.S., Senior Surgeon to the Royal Westminster Ophthalmic Hospital. With 105 Illustrations. Tenth Edition. Cloth. Pp. 264. Price $1.50 net. Philadelphia: P. Blakiston's Son & Co. 1900.

Plea for a Simpler Life and Fads of an Old Physician. By George S. Keith. M.D., LL.D., F.R.C.P.E. Cloth, Pp. 173, Price $1.25. New York: The MacMillan Company. 1900

Proceedings of Philadelphia County Medical Society. Vol. xviii-xix. Session of 1897. Augustus A. Eshner, M.D., Editor. Cloth. Pp. 237. Philadelphia: Printed for the Society. 1897.

Transactions of American Dermatological Association. Twenty-third Annual Meeting, Philadelphia, May 30 to June 1, 1899. Official report of proceedings. by George Thomas Jackson, M.D., Secretary. Paper. Pp. 176. Concord, N. H.: The Rumford Press. 1900.

REPRINTS, ETC.

An Equation of Responsibility. By Edwin W. Pyle, Jersey City, N. J. Hansen & Co. Press. 1900.

Annual Report of St. Elizabeth's Hospital. From Jan. 1, 1899, to Jan. 1, 1900. Paper. Lafayette, Ind.

A Study of Aural Vertigo—Influence of Turbinal Hypertrophy on the Pharynx.—Late Consecutive Oropharyngeal Syphilis. By Lewis S. Somers. M.D., Philadelphia. Reprints.

Beitraege zur Malaria-Frage. By Carl Schwalbe, M.D. Heft 1. Die Malaria und die Mosquitos. Paper. Pp. 19. Berlin W. 30. Verlag von Otto Salle. 1900.

Contused and Perforating Injuries of Eyeball; With Report of Cases. By Thomas A. Woodruff. Reprint from Med. Standard.

Economical Disposal of Sewage With Purification by Small Communities. By Robert Fletcher, Ph. D. Paper. Pp. 11. Supplement to N. H. Sanitary Bulletin, April, 1900.

Headache from Eye-Strain: Its Diagnosis and Treatment. By Casey A. Wood, M.D., Chicago. With Astigmatic Chart. Reprinted from N. Y. Med. News.

Justo-Major Pelvis as a Factor in Causation of Perineal Injuries. By Joseph Brown Cooke, New York City. Reprinted from Med. News.

Nerve Mechanism of Pelvis and Associated Regions.—The Vagina: Descriptive and Applied Anatomy. By Byron Robinson, Chicago. Reprints.

Proceedings of Pathological Society of Philadelphia. March, 1900. Paper. Published by the Society.

Proceedings of Philadelphia County Medical Society. For January and February. Paper. Published by the Society.

Remarks on Extra-Uterine Pregnancy.—Remarks on Influence of Technique on Results of Closure of Wounds of Abdominal Wall.—Remarks on Nephrectomy With a Plea for the More Certain and Earlier Diagnosis of Conditions Requiring it. By Charles P. Noble, M.D., Philadelphia. Reprints.

New Method of Diagnosis of Tuberculosis of Kidney. By Charles P. Noble, M.D., and W. Wayne Babcock, M.D., Philadelphia. Reprinted from Am. Gyn. and Obstet. Jour.

Report of Kensington Hospital for Women. From Oct. 10, 1898, to Oct. 9, 1899. Philadelphia.

Variation of Type in Diphtheria and Scarlet Fever. By Henry D. Fulton, Pittsburg, Pa. Reprinted from Med. Council.

TRADE PAMPHLETS.

Anti-Diphtheritic Serum, Kryofine, Aminoform and Others. New York: C. Bischoff & Co.

The Acid Diathesis, Tono Sumbul Cordial, Granular Effervescent Salts, Ingluvin. A Harmless Remedy for Gradually Reducing Obesity. By William T. Cathell, A.M., M.D., Baltimore, Md. New York: William R. Warner & Co.

Urotropin; Collargolum and Unguentum Crede; Xeroform; Beta-eucain, and others. New York: Schering & Glatz. 1900.

NEW PATENTS.

Patents granted April 3-10, of interest to Physicians, Etc.

646,723. Hernial truss, Alfred Bedson, Paterson, N. J.
646.793. Medical galvanic battery, Harry Bentz, New York, N. Y.
646,491. Spray-tube for atomizers, Harley M. Dunlap, Battle Creek, Mich.
646,574. Operating table, George E. Gorham, Albany, N. Y.
646,579. Truss, Irven E. Johnson, Woodville, Texas.
646,844. Manufacturing water-resisting products from casein, Wilhelm Krische, Hanover, and A. Spitteler, Wolfratshausen, Germany.
646,580. Hot-air or vapor bath cabinet, Joseph H. Lennon and A. C. Whaley, Buffalo, N. Y.
646,611. Disinfecting apparatus, Michael Sheridan, New York, N. Y.
646,631. Phenol ether of quinin carbonic acid, Albert Weller, Frankfort-on-the-Main, Germany.
647,130. Disinfecting device, Jules B. Bengue, Paris, France.
647,372. Truss, Joseph W. Bradford, Los Angeles, Cal.
647,075. Making compounds of paraphenetidin, Wm. H. Claus, A. Ree, and L. Marchlewski, Manchester, England.
647,294. Hot-water bag, Hattie C. Cropley, Washington, D. C.
646,962. Forming sacks for suspensory bandages, Richard Dove, Westville, N. J.
647,392. Oxypurin and making same, Emil Fischer, Berlin, Germany.
647,263. Ester of acetylphenylglycinortho carbonic acid, Bernhard Heymann, Elberfeld. Germany.
647,006. Special apparatus for electric baths, Antonio Maggiorani, Rome. Italy.
647,003. Pessary, Martha J. Kuznik, Chicago, Ill.
647,001. Battery case for electromedical apparatus, James H. Mahler, and C. F. Dunderdale, Chicago, Ill.

Copies of above patents may be obtained for ten cents each by addressing John A. Saul, Solicitor of Patents, Fendall Building, Washington, D. C.

Queries and Minor Notes.

SIGN ALL COMMUNICATIONS.

If "Subscriber," Kansas City, will send his name, his query will be answered.

REQUIREMENTS FOR PRACTICE.

Kenosha, Wis., April 23, 1900.

To the Editor.—I would like to ascertain what the requirements are to enable an M.D. to practice in the different states. I believe I have seen it in The Journal, or elsewhere, but the article is not in my possession.

Very truly, J. M.

Answer:—Requirements for practice were published in The Journal of Nov. 12, 1898, p. 1195. They were correct at that time, but there have been a number of changes since, and some are or were very recently still pending in the different legislatures. The State Board of Health of Illinois, in its report for 1898, also published a complete list of the different state requirements.

ARMY AND NAVY JOURNALS.

Newtonville, Ala., April 18, 1900.

To the Editor.—Will you inform me where I can get a journal of the army and navy? I wish to subscribe for a medical journal published by the respective corps of each service, but do not know where to get this.

Very truly, T W. J.

Answer:—We are not aware of any special medical journal published by either the army or navy in this country. Papers are occasionally published by medical officers, in the various journals and also in the report of the surgeon generals of the two services.

UNION OF BLOOD-VESSELS.

Ogden, Utah, April 10, 1900.

To the Editor.—Will you kindly inform me as to the present status of experimentation for the union of severed blood-vessels, etc., and refer me to the literature of note on this subject.

Very respectfully, H. B. F.

Answer:—Suture of the larger arteries has been demonstrated, by experiments on animals as well as by actual operations on the human subject, to be a successful surgical procedure. Following is a list of cases reported to date: Heidenhain, in 1894, sutured the axillary artery, with recovery; v. Zoege Manteuffel, 1895, the common femoral, with recovery: Israel, 1895, the common iliac, with recovery; Ssabanjeff, 1896, the femoral, with subsequent amputation of the leg, and death; Orlow, 1896, the popliteal, with recovery, Murphy, 1897, the femoral, with recovery; Snider, 1898, the femoral with recovery; Garrè, 1898, the internal carotid, and the brachial, with recovery in both cases. The best articles on the subject are by Murphy (*Medical Record,* 1897, Vol. II., No. 3); Silberberg (Inaug. Dis., 1899); Dörfler (Beiträg. zur Klin. Chir., 1899, xxv., p. 781). In Dörfler's article will be found the literature of the subject up to date.

A QUESTON OF ETHICS.

Grand Island, Neb., April 19, 1900.

To the Editor: Please state your views at length as to the right or wrong in the following case. Dr. A. had been attending a patient some three days, and though the case was serious Dr. A. had maintained a hopeful prognosis. Consultation was requested by the patient and his friends, to which Dr. A. readily agreed and suggested the name of Dr. B. Dr. A. takes Dr. B. with him, at the same time acquainting him with the fact that the friends of the patient had asked that Dr. X. be called. Two consultations were thus held, and once, with the knowledge and consent of the patient, Dr. A. had Dr. B. visit him alone, although Dr. A. continued in charge of the case, and at no time was there any hint that he was not giving satisfaction. Nor did Dr. B. suggest any change in the treatment, and the patient continued to improve, though he was advised by both that it would be slow. Three days after the last consultation, without the knowledge of Dr. A , Dr. B. was asked to take charge of the case, and did so without advising Dr. A. of it, and continued in attendance, incidentally mentioning the fact to Dr. A. several days later. Both doctors are members of the American Medical Association.

Ethics.

Answer.—If "Ethics" has given an impartial statement of the unpleasant occurrence there can be only one reply, viz.. that Dr. B. had no right to accept the case under the circumstances.

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., April 7 to 20, 1900, inclusive:

John S. Fogg, acting asst.-surgeon, from Washington, D.C.. to Columbus Barracks, Ohio, for temporary duty.

William C. Gorgas, major and surgeon, U. S. A., assigned as chief surgeon, Department of Havana and Pinar del Rio, Cuba.

Jefferson R. Kean, major and surgeon, U. S. A., from duty as chief surgeon, Department of Havana and Pinar del Rio, to report to the commanding officer, Division of Cuba, for assignment.

George F. Shiels, major and surgeon, Vols., honorably discharged at his own request, to take effect June 10, 1900; he meanwhile will report for temporary duty in the Department of California.

Edwin P. Wolfe, lieutenant and asst.-surgeon, U. S. A., leave of absence extended.

Alfred A. Woodhull, lieutenant-colonel, deputy surgeon-general, U. S. A., from Somerville, N. J., to Washington, D. C., reporting in person to the surgeon-general.

James L. Bevans, acting asst.-surgeon, from temporary duty at the general hospital, San Francisco. Cal., to Seattle, Wash., for duty in the Department of Alaska.

William C. Borden, captain and asst.-surgeon, U. S. A., to represent the Medical Department of the Army at the Ninth Annual Meeting of the Association of Military Surgeons of the United States, to be held in New York City, May 30 to June 2, 1900.

Charles C. Byrne, colonel and asst.-surgeon-general, U. S. A., as Borden, see above.

Robert E. Caldwell, acting asst. surgeon, from temporary duty at Alcatraz Island, Cal., to Seattle, Wash., as transport surgeon on the transport *Rosecrans.*

William D. Crosby, major and surgeon, Vols. (captain and asst.-surgeon, U. S. A.), relieved from further duty in the Philippines and assigned as attending surgeon and examiner of recruits in New York City, N. Y.

Calvin DeWitt, lieutenant-colonel and deputy surgeon-general, U. S. A., from New York City, to Washington, D. C., to report to the surgeon-general for instructions.

Euclid B. Frick, captain and asst.-surgeon, U. S. A., to represent the Medical Department of the Army at the meeting of the American Medical Association, to be held at Atlantic City, N. J., June 5 to 8, 1900.

Charles M. Gandy, captain and asst.-surgeon, U. S. A., as Borden, see above.

Thomas W. Jackson, acting asst.-surgeon, from New York City to West Point, N. Y., for temporary duty at the U. S. Military Academy.

James M. Kennedy, captain and asst.-surgeon, U. S. A., relieved from further duty in the Department of California, to report about May 10, 1900, at San Francisco, Cal., for transportation to Manila for duty in the Division of the Philippines.

William Stephenson, captain and asst.-surgeon, U. S. A., as Frick, see above; also relieved from duty as attending surgeon and examiner of recruits at New York City, and assigned to the Department of California.

Harrison W. Stuckey, acting asst.-surgeon, now *en route* with troops to San Francisco, Cal., will report to the commanding general in that city for assignment to duty with troops going to Manila; on arrival at which place he will report for assignment in the Division of the Philippines.

Alfred A. Woodhull, lieutenant-colonel and deputy surgeon-general, U. S. A., as Frick, see above.

In addition to the above, Special Orders, No. 93, of April 20, 1900, directs the following named acting asst.-surgeons to proceed from the places indicated to San Francisco, Cal., and report in person to the commanding general. Department of California, for temporary duty: Thomas Z Ball, from Waveland, Ind.: James L. Day, from Lebanon, Mo.; Paul T. Dessez, from Washington, D. C.; Robert L. Felts, from New York City; Alva R. Hull, from New Sharon, Iowa; Frederick W. Hulseberg, from New Haven, Conn.; Frederick C. Jackson, from Columbus, Ohio; Wendell A. Jones, from Westerville, Ohio: James V. May, from Philadelphia, Pa.; Sanford B. McClure, from Cincinnati, Ohio; Lewis B. Porter, from New Haven, Conn.: Thomas L. Rhoads, from Boyertown, Pa.; John L. Shepard, from Galesburg, Ill.; John M. Sheperd, from Brooklyn, N. Y.: Edmund D. Shortlidge, from Wilmington, Del.; Edwin R. Tenny, from Kansas City, Kan.; *Charles F. Sanborn, from Willard, N. Y.*

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week *ended April 14, 1900.*

P. A. Surgeon F. W. Olcott, ordered to duty at the naval recruiting rendezvous, Philadelphia, Pa.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the United States Marine-Hospital Service for the seven days ended April 12, 1900.

Surgeon J. H. White, detailed as inspector of quarantine stations.

P. A. Surgeon J. O. Cobb, detailed as delegate to attend the meeting of the American Climatological Association at Washington, D. C., May 1-3, 1900.

Asst.-Surgeon C. E. Decker. bureau letter of March 31, 1900, granting Asst.-Surgeon Decker leave of absence for 29 days on account of sickness. amended so that the said leave shall be for 23 days only.

Asst.-Surgeon John McMullen, to proceed to the South Atlantic quarantine station (*en route* to Tortugas) and report to the medical officer in command for temporary duty.

Asst.-Surgeon D. H. Currie, granted leave of absence for 10 days from May 4, 1900.

Asst.-Surgeon A. J. McLaughlin, to report to medical officer in command of the service at New York City, for duty and assignment to quarters.

Asst.-Surgeon J. D. Long, to report to medical officer in command of the service at Boston, Mass., for duty and assignment to quarters.

Asst.-Surgeon N. W. Glover, to report to the medical officer in command of the service at Baltimore, Md., for duty and assignment to quarters.

Asst.-Surgeon B. H. Earle, to report to the medical officer in command of the service at Chicago, Ill., for duty and assignment to quarters.

Asst.-Surgeon B. J. Lloyd, to report to the medical officer in command of the service at Mobile, Ala., for duty and assignment to quarters.

Acting Asst.-Surgeon S. B. Hunter, granted leave of absence for two days.

Hospital Steward F. R. Hanrath, upon being relieved from duty at St. Louis, to proceed to New York City, and report to the medical officer in command for duty and assignment to quarters.

Hospital Steward S. W. Richardson, relieved from duty at Cleveland, Ohio, and directed to proceed to St. Louis, Mo., and report to the medical officer in command for duty and assignment to quarters.

APPOINTMENTS.

John D. Long, of *Pennsylvania*: Mervin W. *Glover, of the District* of Columbia; Baylis H. Earle, of South Carolina, and Bolivar J. Lloyd, Texas, commissioned as assistant-surgeons April 9, 1900.

BOARD CONVENED.

A board of officers will be convened at the Service Building, 378 Washington Street, New York City, Wednesday, May 23, 1900, for the purpose of examining candidates for admission to the grade of assistant-surgeon in the United States Marine-Hospital Service.

Candidates must be between 21 and 30 years of age, graduates of a reputable medical college, and must furnish testimonials from responsible persons as to character.

..*The* following is the usual order of the examination: 1, physical; 2, written; 3, oral; 4, clinical.

In addition to the physical examination, candidates are required to ceritfy that they believe themselves free from any ailment which would disqualify for service in any climate.

The examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise consists in examination on the various branches of medicine, surgery and hygiene.

The oral examination includes subjects of preliminary education, history, literature and natural sciences.

The clinical examination is conducted at a hospital, and when practicable candidates are required to perform surgical operations on a cadaver.

Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur.

Upon appointment the young officers are as a rule first assigned to duty at one of the large marine hospitals, as at Boston, New York, New Orleans, Chicago or San Francisco.

After five years' service, assistant-surgeons are entitled to examinations for promotion to the grade of passed assistant-surgeon.

Promotion to th egrade of surgeon is made according to seniority, and after due examination, as vacancies occur in that grade. Assistant-surgeons receive $1600, passed assistant-surgeons $2000, and surgeons $2500 a year. When quarters are not provided commutation at the rate of $30, $40, or $50 a month, according to grade, is allowed.

All grades above that of assistant-surgeon receive longevity pay, 10 per centum in addition to the regular salary for every five years' service up to to 40 per centum after twenty years' service.

The tenure of office is permanent. Officers traveling under orders are allowed actual expenses. For further information, or for invitation to appear before the board of examiners, address. Supervising Surgeon-General, U. S. Marine-Hospital Service, Washington, D. C.

HEALTH REPORTS.

The following cases o[illegible] r, cholera and plague, have been reported to [illegible] J. S. Marine-Hospital Service, during the weel [illegible]

SMALLPOX—UNITED STATES.

Alabama: Mobile, April 7-14, 1 case.
District of Columbia: Washington, April 7-14, 1 case.
Florida: Jacksonville, April 7-14, 1 case.
Illinois: Chicago, April 7-14, 1 case.
Indiana: Evansville, April 7-14, 4 cases.
Kansas: Wichita, April 1- 7, 5 cases; Wichita, 7-14, 14 cases.
Kentucky: Covington, April 7-14, 9 cases; Lexington, April 7-14, 3 cases.
Louisiana: New Orleans, April 7-14, 51 cases; 19 deaths.
Maine: Portland, April 7-14, 1 case.
Maryland: Baltimore, April 7-14, 1 case.
Michigan: Detroit, April 7-14, 1 case.
Minnesota: Minneapolis, April 1-14, 20 cases.
Nebraska: Omaha, April 7-14, 4 cases.
New York: New York, April 7-14, 1 case, 1 death.
Ohio: Cleveland, April 7-14, 11 cases, 2 deaths.
South Carolina: Greenville, April 7-14, 2 cases.
Utah: Salt Lake City, April 1-14, 3 cases.
Virginia: Portsmouth, April 7-14, 1 case.
Washington: Spokane, April 7-14, 3 cases.

SMALLPOX—FOREIGN.

Austria: Prague, March 17-24, 4 cases.
Belgium: Antwerp, March 24-31, 2 cases, 2 deaths; Ghent, March 24-31, 2 deaths.
Brazil: Rio de Janeiro, February 23-March 2, 15 deaths.
Canada: Quebec, Bonaventure County, April 5-12, 25 cases.
Colombia: Barranquilla, March 24-31, 5 cases, 5 deaths.
Egypt: Cairo, March 11-18, 8 cases.
England: Liverpool, March 24-31, 21 cases, 1 death; London, March 17-31, 8 cases, 1 death.
Gibraltar, March 26-April 1, 3 cases, 1 death.
Greece: Athens, March 24-31, 10 cases, 6 deaths.
India: Bombay, March 6-13, 222 deaths; Kurrachee, March 4-11, 17 cases, 6 deaths.
Italy: Palermo, March 17-24, 1 death.
Mexico: City of Mexico, March 18-April 1, 40 cases, 22 deaths; Vera Cruz, April 1-7, 3 deaths.
Russia: Moscow, March 10-17, 9 cases, 2 deaths; Riga, January, 1-31, 38 deaths; St. Petersburg, March 3-10, 20 cases, 8 deaths; Warsaw, March 10-17, 1 death.
Spain: Corunna, March 24-31, 1 death; Madrid, March 16-24, 6 deaths; Valencia, March 24-31, 3 cases, 3 deaths.
Straits Settlements: Singapore, February 10-March 3, 14 deaths.

YELLOW FEVER.

Brazil: Rio de Janeiro, February 23-March 2, 18 deaths.
Colombia: Barranquilla, March 24-31, 1 case, 1 death; Panama, March 27-April 10, 3 cases.
Cuba: Havana, March 1-April 17, 2 cases, 4 deaths.

CHOLERA.

India: Bombay, March 6-13, 222 deaths: Kurrachee, March 4-11,

PLAGUE—INSULAR.

Philippines: Manila, February 24-March 3, 7 deaths

PLAGUE—FOREIGN.

India: Bombay, March 6-13, 736 deaths; Kurrachee, March 4-11, 90 cases, 63 deaths.
Japan: Formosa, Tamsui, January 1-31, 53 cases, 43 deaths; Formosa, Tamsui, February 1-28, 46 cases, 39 deaths; Osaka, April 16, present.
Paraguay: Asuncion, February 8-15, 6 deaths.
Persia: Djiranro, March 29, present.

CHANGE OF ADDRESS.

Dr. C. F. Allen, from Milwaukee to Middleton, Wis.
Dr. M. W. Bland, from Hotel Morrison to 239 Ogden Avenue, Chicago.
Dr. R. L. Black, from 3013 Perry Ave. to City Hospital, Kansas City, Mo.
Dr. J. Bixby, from Diller to Strong, Neb.
Dr T. J. Blakeley, from Cuyahoga Falls to St. Johns, Ohio.
Dr. H. W. Clements, from Mulltown to Hahvia, Ga.
Dr. B. Daniel, from Augusta to Hillis, Ga.
Dr. W. E. Frank, from Keokuk, Ia., to Trivoli, Ill.
Dr. W. A. Funk, from Baltimore, Md., to 25 E. 112th St.. New York City.
Dr. G. E. Garwood, form Toledo to Deshler, Ohio.
Dr. W. S. Hendricks, from 915 to 927 W. North Ave. Chicago.
Dr. E. C. Hamley, from 1031 Taylor St. to 238 Winchester Ave., Chicago, Ill.
Dr. W. S. Hull, from New Market to Faucett, Mo.
Dr. H. H. Hartley, from Condon to Prairie City, Oregon.
Dr. C. E. Houston, from Charleston to Florence, S. C.
Dr. T. H. Jameson, from Enfield, Ill., to Wellington, Kansas.
Dr. J. F. Jones, from Sherman, Texas, to Cardena, S. L. P., Mexico.
Dr. F. C. Kovats, from 222 S. Paulina St. to 640 Jackson Boul., Chicago, Ill.
Dr. A. F. Kemp, from St. Louis to Venice, Mo.
Dr. T. W. Little, from Keokuk to Long Grove, Iowa.
Dr. W. A. Loops, from Milwaukee to Loyd, Wis.
Dr. W. J. Lonergan, from Oshkosh to Princeton, Wis.
Dr. F. E. McClane, from Nashville to Lebanon, Ill.
Dr. F. Le Moyne, from Sagertown to 503 Castleman St., Pittsburg, Pa.
Dr. J. A. Patton, from 2082 Congress St. to 2271 Harrison St., Chicago. Ill.
Dr. D. H. Pelletier, from Chicago to St. Anne, Ill.
Dr. E. D. Piper, from 2116 Monroe St. to 2141 Jackson Boul., Chicago, Ill.
Dr. G. S. Roach, from Augusta to Johnston Station, Ga.
Dr. A. N. Sloan, from Sioux City, Ia., to Franklin, Neb.
Dr. A. H. Stebbins, from Marian and Zacks Sts. to 413 Florida St., Tampa, Fla.
Dr. T. Tomelty, from St. Martins to Big Bend, Wis.
Dr. H. H. Wehrs, from St. Louis to Boeuf Creek, Mo.

The Journal of the
American Medical Association

VOL. XXXIV CHICAGO, ILLINOIS, MAY 5, 1900. No. 18.

Original Articles.

FURTHER OBSERVATION ON THE TREATMENT OF THE ABDOMINAL VISCERA THROUGH THE COLON.*

BY FENTON B. TURCK, M.D.
CHICAGO.

In a paper on this subject, before the AMERICAN MEDICAL ASSOCIATION, in June, 1899, I presented a summary of experiments on animals demonstrating the physiologic results of certain methods of treatment applied to the colon.[1] It was there shown that the introduction of small quantities of water at a temperature of 55 C.—131 F.—through the rectum into the colon produced marked effect not only on the abdominal organs but also on the heart and general circulation. These experiments and the results of clinical observation along lines indicated by them demonstrate, in a variety of cases, the great value of the procedure. In connection with these experiments and resultant clinical data, the present communication proposes to discuss other methods of colonic therapeusis original with myself.

In the first of these new methods, air—hot or cold—is forced into the colon through a double tube, and allowed to escape. This hot or cold air, through its stimulant power, produces what has been well styled gymnastics of the colon. By a second method colon massage is obtained. By a third colonic electrization is secured. Through a fourth method direct medication of the colon is applied. A fifth secures dietetic and other therapeusis through the colon.

As an introduction to the clinical evidence of the value of hot water lavage of the colon, a résumé of the technique seems necessary. The patient is placed in a dorsal position on a table so adjusted that the hips may be raised or lowered to any required angle without discomfort. The solution employed is usually a .9 per cent. salt solution at a temperature of 55 C.—131 F. This temperature is employed to secure the therapeutic effect of heat. A soft-rubber tube, either single or double, with end and side openings, is introduced into the rectum as far as the sigmoid flexure; 200 to 300 c.c. of water at a temperature of 50 C.—122 F.—is first introduced into the rectum. This is allowed to return through the tube into a receptacle, in order to prevent overdistention and to replace the water that has been lowered in temperature in the intestine. The procedure is then repeated and with each repetition the temperature is gradually raised until 55 C. is attained. For this purpose from three to six liters of water will be required. At no time is a large amount to be introduced into the intestine. The patient is then allowed to empty the bowels. After this he is placed on the table and receives a similar short treatment with water cooled to 2 to 5 C. —35.6 to 41 F.—by means of ice. The quantity of water required and the duration of the treatment will depend on the character of the case.

Therapeusis here as elsewhere will depend on correct diagnosis not only of the disorder but of its type. Based on this, the procedure is eminently valuable. For continuous irrigation a double in lieu of a single tube should be used. The double recurrent tube or "needle douche" which I have described elsewhere has answered this purpose well in my hands and in those of Herschel, Treves, Gillespie and other gastro-enterologists.

Favorable results from the procedure thus described depend not so much on the amount of water introduced as on the reaction between the stimulation of heat and that of cold. A single large quantity of water is detrimental, while small quantities of hot water frequently repeated have remarkably beneficial effects. The colon mucous membrane, like that of the back of the throat and esophagus, will sustain a remarkable degree of heat without undesirable reaction.

The therapeutic indications are based on the vasomotor conditions which underlie certain pathologic disturbances. In a general way the cases which are benefited by this procedure may be divided into those where the liver is most markedly affected, those where the kidneys are, and finally those where an intestinal factor is most evident, as in appendicitis. In hepatic insufficiency, catarrhal jaundice, chronic hepatitis, the results of the treatment have been exceedingly satisfactory.

CASE 1.—J. B. M., a miller, 54 years old, complained of pain in "the pit of the stomach" and right side with a feeling of distress and of dull heaviness. In three months he had lost thirty pounds, but had been well up to three months prior to the first attack. He had often been obliged to go without breakfast, and had neglected to take lunches, and returning home ravenously hungry he had often eaten too much at one meal. He had also neglected exercise. Three months of this mode of living resulted in the symptoms described, together with slight icterus. Partial recovery occurred, but he was unable to attend to business and a month later a second attack occurred, followed as before by recovery, but with a longer interval than after the first attack. Three months after the first attack there was pain, icterus with clay-colored stools, and complete loss of appetite. He had been treated by all the usual hepatic medicinals as well as cold water enemata, but grew worse. I was called in consultation and the patient placed under my care. On careful examination it was found that glandular gastro-duodenitis existed. The liver was enlarged and hardened but not nodulated. The stools were light in color and the urine contained bile. The patient was placed under colonic lavage with water at 55 C., a normal salt solution being employed. In three weeks the symptoms had entirely disappeared and he had gained fifteen pounds. Six months later there had been a complete recovery with a gain of thirty pounds in weight.

---

*Read at the meeting of the Mississippi Valley Medical Association, Chicago, Oct. 3, 1899.

[1] Turck: Treatment of Abdominal Viscera through the Colon. THE JOURNAL, xxxiii, 580.

Case 2.—Dr. W. R. F., aged 44 years, complained of pain in the region of the liver, loss of appetite and of weight. There was dizziness and ringing in the ears, as well as of depression. The skin was discolored at times, and he had frequent attacks of what had been diagnosed as cholemia. He had been under the usual treatment, medicinally, for this condition for six months. On examination there was found an increased hepatic area in the cardiac direction, reaching to the mammary line.

The urine did not contain albumin, sugar nor bile; 700 c.c. were passed in twenty-four hours; the urea was 1.87, the specific gravity 10.25. The diagnosis was hepatic hyperemia with resultant insufficiency. During one month he was treated with colonic lavage at 55 C., eighteen times. The symptoms all disappeared, the liver diminished in size, the urine was increased in quantity and contained an increased amount of urea, the appetite returned, the patient resumed practice and has continued well.

In the following case diabetes, evidently of hepatic origin, co-existed with hepatic insufficiency.

Case 3.—A 59-year-old man complained of pain in the hepatic area, of belching gas and of disturbances of digestion one hour after meals. He was markedly depressed. On examination the liver area was found within normal limits, but on pressure was hard and resistant. The heart sounds were weak; the second sound at the base was accentuated. The gastric area reached 2 cm. below the umbilicus. On examination of the stomach contents there was found retention of food but no free HCl. The patient had been on strict anti-diabetic diet, and had visited Carlsbad several times with slight improvement. On return to the United States the symptoms reappeared. He was placed on a mixed diet, care being taken to select such food as was nutritious and was easily digested. There was a slight restriction in the carbohydrates. Colonic lavage was begun with normal salt solution at 55 C.

The treatment was continued every other day for two months. During the third month it was given twice weekly, after which the patient took only occasional treatment. When indicated, intragastric medication was given. The principal treatment, however, was colonic lavage. As a result all the symptoms disappeared, the bowels became regular, the urea returned to normal limits and the glycosuria disappeared. The patient has had no treatment for several months and has remained well. No sugar is detectable in the urine.

Case 4.—E. H. L., a man 36 years old, complained of dizziness and depression which prevented him from attending to business. He was markedly constipated, had used alcoholics steadily for years and often to excess, and the skin was discolored, the heart area enlarged, but the valves intact. The liver area was enlarged and the liver was hard and resistant. On examination of the stomach contents, one hour after the Ewald test-meal, there was found: total acidity 45, free HCl .05 per cent. Seven hours after a regular meal the stomach was empty and mucus was present. The stomach was thick and not distensible, the gastric area normal. The diagnosis of hepatic cirrhosis was made. Colonic lavage—55 C.—was given daily for one week, then every other day for three weeks, then twice a week for the next month and once a week for the following three. The principal symptoms disappeared in one month; there was gradual improvement in the general condition. The patient now attends to business and claims to be as well as ever.

Renal insufficiency, with or without albuminuria is frequent in many chronic cases, and these often present more or less complete evidences of the symptom-complex, uremia. In such cases colonic lavage gives brilliant results. Even in true nephritis the condition is much improved, and clinically the disorder seems to have disappeared. The following cases illustrate the prompt result and lasting benefit of this treatment:

Case 5.—A 58-year-old woman suffered from acute renal congestion with suppression of urine. There were ominous symptoms of uremia, great depression and nervousness and headache. Her throat was markedly inflamed. During the first twenty-four hours no urine was passed, but during the second twenty-four 100 c.c., after which the quantity reached 300 c.c.; albumin + urea — . The usual medicinal treatment had had but slight effect. When I was consulted colonic lavage—55 C.—was ordered every hour for three or four, after which it was given every three hours. Under this treatment the urine greatly increased in quantity and the albumin diminished. The treatment was continued twice daily until recovery.

Case 6.—A 45-year-old man had suffered from chronic nephritis and there was albuminuria with granular casts, with nausea and vomiting daily, headache and marked loss in weight. On examination of the eyes Dr. Casey A. Wood found an atypical albuminuric retinitis in the right one. He passed 500 c.c. of urine daily, containing 12.5 grams of urea, albumin and casts. After treatment by colonic lavage, the urine increased to 700 c.c.; the specific gravity was 1025. The test for albumin gave negative results, although there was albumosis. The urea had increased to 22.36 grams. The vomiting ceased. The treatment was continued at a regular interval for three months. The weight increased 18 pounds. The urine became free from albumin and casts and the amount excreted was within normal limits. One year afterward the patient remained in healthy condition and no albumin nor casts were to be detected.

During the past six years I have found colonic lavage with alternate hot and cold water useful in the early stages of appendicitis. In some cases where diagnosis can not be made at once, a waiting course is adopted. In such and in any event employment of the alternate hot and cold colonic lavage has given good results, since even where operation is indicated the danger of shock is lessened. The treatment, moreover, does not mask but accentuates the cardinal symptoms. The pain is lessened, the shock reduced, the circulation markedly improved, the temperature lowered, the gaseous distention reduced, the abdomen relaxed and rendered less painful to the touch. It thus becomes possible to make more thorough physical examination. In the following three cases the symptoms subsided within twenty-four hours. Operation had been refused in each case. As soon as adhesions are formed, colonic treatment should be used, if at all, very cautiously.

Case 7.—Mrs. J. W., wife of a physician, had an acute pain in the right iliac region, with vomiting and shock and a temperature of 102 F. The bowels moved slightly after enema. On examination pelvic disease could be excluded. There was great tenderness on pressure over McBurney's point. The matter vomited consisted of duodenal contents. Continuous colonic lavage was given for thirty-five minutes, and this was repeated two hours afterward. The bowels moved, the temperature fell—100.5 F.—the vomiting ceased and the pain lessened. The patient was then removed to the Post-Graduate Hospital and colonic lavage at 55 C. continued. On consultation with Dr. A. H. Ferguson, the diagnosis was confirmed and the patient prepared for operation. On account of the rapid improvement in the symptoms it was, however, decided to wait and continue treatment by colonic lavage. She made an uneventful recovery, without operation.

Case 8.—A 16-year-old girl suffered from acute appendicitis, but operation had been refused. I was called in consultation and found her very weak, vomiting constantly and suffering from great pain with a temperature of 102 F. There was a diffused maximum tenderness over the right iliac region. Colonic lavage was undertaken at once. On account of great weakness care was taken to avoid overstimulation. Small quantities of water were used at short intervals; the temperature was gradually raised to 55 C. The pain gradually lessened and the temperature fell. Colonic feeding was instituted and no attempt made to feed by the mouth. Colonic lavage was continued twice daily, and she improved rapidly and made a good recovery. Consent to operation was obtained six weeks after recovery from the attack, the appendix removed and the patient made a complete recovery.

Case 9.—Dr. H. E. P., aged 55, came under observation with a second attack of appendicitis, with great pain and vomiting. The temperature was 104 F. Preparations had been made for operation, which was refused. Colonic lavage at 55 C. was begun. Immediately after, the patient fell asleep. On awakening two hours thereafter colonic lavage was again given and a third treatment was given at night. The pain was much lessened, the shock was reduced and the temperature fell to 102 F. The treatment was continued next morning, noon and night. The temperature fell to 100 F., the pain ceased and the general condition was much improved. He made a good recovery and has remained well since.

Continuous irrigation produces effects slightly different from those of colonic lavage, and is indicated in impaction, acute gastro-enteritis and in the early stages of appendicitis. Rectal enemata have been used in appendicitis, but their effects have been more or less marred by deficiencies resultant on the technique employed. The *modus operandi* of colonic lavage and continuous irrigation is much more complex therefore than would at first be assumed. They not only affect that of the bowels but also the general abdominal circulation. This effect is produced through their influence on the plexuses of the intestinal walls and on the ano-genital center. This center is one of the last reflexes to be extinguished during coma of any kind, and hence what affects it has a powerful influence on the abdominal and pelvic organs and on the central nervous system. This center has the widely diffused action which results in the influence of therapeutic and pathologic procedures on the hepatic, renal and general circulation. The temperature as well as the mechanical influence of the procedures described plays a part in therapeutic results through their influence directly on nerve plexuses.

For several years, being convinced of its value by a lengthy experience I have advocated the employment of colonic lavage in typhoid fever. There is no danger resultant on the introduction of small quantities of water at a time, being allowed to siphon off before introducing more. There might be harm from using large enemas, by what is known as "high injections," "rectal and colonic flushings," etc. These methods may be of more advantage used as a douche. There have been advocates of the use of large enemas of water in typhoid fever. The procedure has been warmly advocated by Schnell and Henselä[2]—Meseritz. These methods have been found to be especially of value in the early stages of typhoid fever. Despite the glowing eulogisms which this procedure has received, the introduction of large enemata (stretching the rectum and sigmoid flexure) has produced great weakening. This is not surprising when the fatigue attendant on the effort to expel from two to four pounds weight of water is remembered. With precautions with the technique already described, and with variations in temperature and time of treatment suited to each case, the rain or needle douche procedure will have decidedly potent effect in removing from the colon the toxin and contagious materials and in restoring the circulation. While it can not be definitely stated that duration of the disease is shortened, still there is such an improvement in the lassitude, delirium, pyrexia, and other constitutional expressions of typhoid fever, and such a lessening of complications, that the value of the procedure is demonstrable to any one employing it. After a careful practical study of the methods in vogue during the past decade I consider this method of colonic lavage of most value. The treatment is contraindicated in cases where dilated heart or other grave cardiac lesions exist. In severe proctitis and sigmoiditis very hot water sometimes acts as an irritant to the intestinal walls. Here water at the room temperature is preferable. Except in acute diseases—for the immediate physiologic action indicated even then only if there be proctitis—damage will not result unless the treatment be continued too long. In cases of marked arteriofibrosis, when danger from hemorrhage may result from the employment of any active procedure, lavage is contraindicated, as also in advanced tuberculosis, as well as in cirrhosis in which the conditions of the vessels may produce hemorrhage on slight strain. These contraindications are such as will occur in individual patients rather than in particular types of disease. They are therefore such as must be formulated by physicians as to the therapeusis of any patient.

In the treatment of the colon by water or air, single or double recurrent tubes are employed, according to the object to be obtained. One with but one opening at the end is useless for colonic lavage. The tube I have devised for this purpose has a caliber of 23 A. or 35 F., and is one meter long. The end is tapered and the edges of the opening are beveled. On either side of the tube is a row of four small openings; above is a large side opening with sunken eyes, to prevent irritation in introduction of the tubes. The distance from the end of the tube to the end of the uppermost opening is 1¾ inches. The advantages of the tube are: The rapid and immediate return of the water injected, the absence of danger of trauma of the mucous membrane by siphonage, and a more equable distribution of the water, a matter of importance in the introduction of food or in local medications as well as in lavage. The double recurrent tube and "needle douche," which has been previously described by me, is indispensable when prolonged irritation or lavage is needed. It is of value, as has been pointed out by Treves, Herschell, and Gillespie, in impaction as well as in obstruction from any cause. It is also useful in appendicitis. The sprinkler at the end of the tube is of value in atony of the colon and wherever hot or cold water is indicated as a spray, "needle" douche, single or alternating. The "needle" or "rain" douche or "sprinkler" has been employed for m[illegible] [illegible] the [illegible] t of gastric and intestinal disorders. Up to 1894, when I first presented this procedure to the profession, no proper method suited to emergencies and destitute of disadvantages when carefully employed was in use for douching the stomach and intestines. There was a method which employed a single tube with a large opening and several smaller openings which was denominated a "stomach douche." The disadvantages and lack of efficiency of this procedure have already been pointed out.

---

[2] N.Y. Med. Jour., Sept. 2, 1893; A[illegible] [illegible]eit

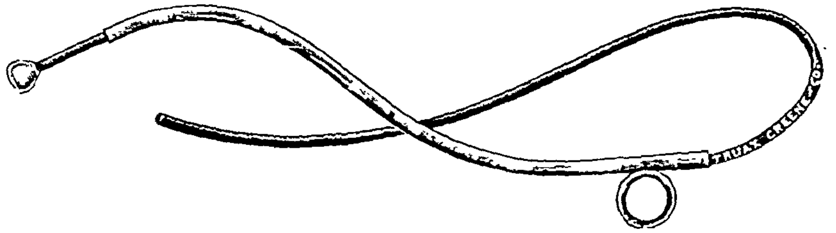
The "needle" or "rain" douche admits of being turned into an electrode by introduction of a gyromele cable, thus producing a combined recurrent rain douche, with electric addition. This procedure has been employed by me for years with benefit, in the treatment of the stomach.

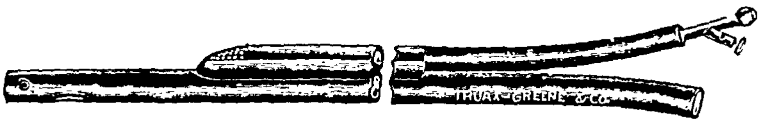
It will often be found difficult to pass the sigmoid flexure, when this becomes necessary, with the ordinary rubber tube, as it is not adapted to this purpose. The passage around the colon, even as far as the cecum, is now practicable with my colonic sound and irrigator. This consists of a double curved metallic tube about sixteen inches in length, of such design and construction that it may be passed through the sigmoid flexure. The tube not only serves for the return flow of fluids injected into the colon, but also as a sheath for the introduction of a flexible, hollow metallic cable, which is a portion of the instrument. This cable, at its distal end, has a perforated olive-shaped head which serves as a guide for passing the sound. The cable is hollow and may be employed for colonic distention. If this be done during the passage of the sound, the further introduction of the latter is assisted. The position of the cable tip can be determined by palpation, especially if the cable be rotated. The latter can also be employed as an electrode when necessary, and is of value as an adjuvant in both medicinal and dietetic treatment of the colon.

A frequent personal idiosyncrasy prevents introduction of water, especially hot water, into the colon. Its introduction is sometimes followed by collapse. The general atony of the bowel resultant on the enema habit is a comparatively minor though unpleasant expression of this condition.

In treatment of the colon, especially when atony exists, the objects are: application of heat, distension with resultant contraction and peristalsis, the last acting as a gymnastic exercise of the colon. To avoid the untoward effects of water, air may be employed. If needed the air can be heated by the methods described at the last session of the British Medical Association.[3] Compressed air is introduced through a double tube into the colon. When the latter is distended, the air is permitted to escape through the outlet tube. Air heated to 55 C. reaches as far as the cecum. The air can, at need, be so medicated with menthol, clove-oil, etc., as to apply the method of nebulization to the bowel. The chief value of this is relief of atony through stimulation, with resultant benefit thereby to constipation consequent on the atony.

Like all other organs of the body, the intestine has its own system of nerves responsive to peripheral influences from its contents. These, as Langley has lately shown, react differently and independently from the general system of peripheral nerves. They require local stimulation as well as systemic in cases of atony. Hence abdominal massage can not fulfil all the claims made for it in this particular. To act on these nerves the bowel requires massage from the mucous surface. This is best accomplished by the gyromele or revolving sound adapted to this purpose. Through the cable of the gyromele electricity may be added to vibratile massage. The flexible cable with the sponge attached is easily slipped into the bowels. The cable and sponge are rotated by a small drill. The cable can be readily turned into an electrode, placing the indifferent electrode on the abdomen. According to Herschell (Constipation, 2d Ed., 1899) this gyromele can not injure the bowel, nor is it necessary to inject previously with water. Well wetted and soaked, the sponge easily passes the sphincter and is readily pushed as far as the sigmoid flexure.





My conclusions are: Massage, systemic or abdominal electrization, while not destitute of good effects, achieve but partial success. The facts already cited as to the benefit of massage applied to the bowel's mucous membrane are peculiarly applicable to electrization, which can be applied to the mucous membrane of the bowel, as far as the colon is concerned. A large area can be reached through the cable and irrigator by the method already described.

Space does not permit the report of experiments, and observations on medical and dietetic treatment through the colon. These are reserved for a future communication.

The Paris millionaire philanthropist, Osiris, is building for his friend and physician, Paul Segond, a gynecologic pavilion in the gardens of the Salpêtrière Hospital. The *Figaro* describes it as presenting the appearance of a beautiful country villa, the abode of peace and happiness. It will undoubtedly be a model in every respect.

---

[3] Turck: Pneumatic Gymnastics, etc. British Med. Jour., No. 1974, p. 1328.

PROTOCOLS OF MICROSCOPIC EXAMINATION OF SEVERAL GASSERIAN GANGLIA.*

BY LEWELLYS F. BARKER, M.B.

BALTIMORE, MD.

(Continued from page 1041.)

1. *Control from Autopsy 1466: Ganglion semilunare sinistrum.* (From a man 39 years old, dead of chronic interstitial nephritis, arteriosclerosis, fibrous myocarditis and miliary tuberculosis of both lungs, with right-sided fibrinous pleurisy. No disease of the ganglion was suspected.) Formalin hardening and paraffin embedding were used and serial sections stained by various methods. Nerve-cells are present in normal numbers, the cells larger than the average, generally rounded or oval in shape, and they fill up the capsular spaces. In many of the sections there is a distinct group-like arrangement, several cells being closely crowded together. In some of these groups no capsular cells can be made out around the individual members of the group. The nuclei of the cells are as a rule centrally placed. The nucleoli are large and deeply staining; the nucleus itself is often fusiform or spindle-shaped, sometimes round, the alteration in shape being probably due to the fixation. The nucleus in Nissl preparations stains of a light blue tint. Tigroid is abundant in the cell protoplasm, chiefly in the form of rather minute masses. Some of the cells contain large masses of yellowish so-called "pigment substance" quite like that seen in the ventral horn cells of the spinal cord. Rather more of the cells show a brownish black, or almost black, pigmentation, this black pigment being arranged sometimes at the poles of the cell, sometimes in the form of a circle around the nucleus, sometimes in crescentic masses in the cell body. The cells vary in size and shape, large ones predominating. In a few cells the tigroid is scanty about the nucleus, but in the majority it is very evenly distributed throughout the cell body. A number of concentric bodies the size of nerve-cells and some larger, some smaller, are present. They are situated sometimes close to small nerve-cells, apparently crowding them. There is no change in the appearance of the capsular cells. They are not numerous and are for the most part flat and long-drawn out. The connective-tissue about the ganglion shows no alterations. The blood-vessels are not thickened.

2. *Control from Autopsy 1476: Ganglion semilunare dextrum.* (From a colored woman aged 65, dead of epithelioma with multiple visceral metastases. No disease of the ganglion was suspected.) The nerve-cells vary somewhat in size, but on the whole are tolerably uniform. They are distributed evenly in parts of the ganglion, in other parts they are arranged in definite longitudinal strands of from four to seven cells wide. The cells fill up the capsular spaces. The group-like arrangement met with in the ganglia of Autopsy 1466 is not seen here. The nuclei are nearly all centrally placed and on the whole stain normally, although the nuclear substance takes a slightly bluish tint in Nissl preparations. A number of the cells contain the black pigment mentioned. Very few contain the yellow pigment. The amount of tigroid varies in different cells, some staining much more deeply than others. The tigroid is chiefly present in the form of fine granules. At the periphery of some of the cells there are large bleb-like vacuoles in the cell protoplasm. There are also clear spaces devoid of tigroid at the edges of some of the cells. These may be identical with the *Vacuolen* of v. Lenhossék and the discs of Huber. The capsule cells are often irregularly arranged in the periphery, being higher and deeper staining at one or both poles of the cell. In a great many of the cells, however, they are flat and regularly arranged. Only occasionally is there a capsular space not filled up by the cell. A few cells are seen in which there is marked retraction of the nerve-cell body, so that it forms a small crescent at one edge of the capsular space, the rest of this space being either empty or partially filled with a fine granular deposit which looks like coagulated albumin. Scattered through the ganglion are a few foci where small round cells have accumulated. These cells are nearly all small mononuclear elements of the lymphoid cell type. The majority of them are in the tissue between nerve-cells, but some of them are found invading the capsule and capsular space of nerve-cells. They may be between the capsule and capsular space of nerve-cells. They may be between the capsular cells and the membrana propria on which these rest; occasionally a garland of them is met with between the nerve-cell body and the capsular cells, and sometimes they are actually within the cell bodies of the capsular cells.

This ganglion contains very few of the concentric pale bodies. The connective tissue around the ganglion is not increased in amount. The walls of the blood-vessels show no marked alterations. Along some of the smaller arteries and veins cut longitudinally there is a distinct increase in the number of cells in the tissues just outside. These cells are typical plasma cells of Unna's type.

3. *Control from Autopsy 1480:* man aged 39 years who died in status epilepticus following chronic traumatic meningitis; chronic nephritis, edema of the lungs.

Ganglion seminlunare dextrum: No disease of the ganglion was suspected. Nerve-cells are present in normal numbers and distribution, nearly all rather small, very few of the large type being present. There are a good many concentric bodies. Some of them are pale, some of them stain deep, dark blue in hematoxylin.

The nuclei are centrally placed. Most of them are round, but some are oval, and a few have jagged edges. The cells are rather pale, the tigroid being scanty. A number of cells show the brownish-black pigmentation; more contain a yellowish pigment. The capsular spaces are uniformly well filled by the nerve-cells. The capsule cells are numerous. An occasional nerve-cell is found far out in the trunk of the nerve. No increase of connective tissue is demonstrable. The blood-vessels are normal. There are no areas of round-cell infiltration or of plasma cell accumulation.

Ganglion semilunare sinistrum: Sections of this ganglion are similar in appearance to those of its fellow of the opposite side.

4. *Gasserian Ganglion from case of cerebrospinal meningitis:* The ganglion and nerves are swollen and bathed in pus. The latter consists chiefly of polymorphonuclear leucocytes, but there are also many small mononuclear leucocytes and a number of larger phagocytic cells containing several of the smaller cells within their protoplasm. The nerve-cells are present in normal numbers. The actual single nerve bundles and masses of ganglion cells are scarcely invaded by the purulent process, the pus lying between the individual nerve bundles and at the periphery of the various ganglion cells and masses. The cells stain intensely in Nissl preparations, and the tigroid is abundant. The capsular spaces are well filled. The nuclei as a rule are centrally placed, and they are distinctly swollen. The nucleoli are present and sometimes swollen; no evidence of general chromatolysis can be made out, the most marked alteration being the extreme swelling of the nucleus. Sometimes the nucleus is so swollen as to fill up most of the cell, leaving a rim of deeply staining protoplasm peripheral to it. In one mass of ganglion cells thus altered, the nuclei are excentrically placed, and in some of the cells the tigroid has almost disappeared. It is probable that the nerve-fibers connected with these cells have been injured in the inflammatory process. The blood in the blood-vessels shows a slight leucocytosis; the walls of the blood-vessels show no demonstrable alterations.

5. *Experiment on a dog's Gasserian ganglion.* (Operation by Dr. H. W. Cushing, with evulsion of the N. maxillaris on the right side): The right and left semilunar ganglion were fixed in alcohol at the end of fifteen days, with paraffin embedding, and staining by Nissl's method. In the ganglion on the right side are rows of ganglion cells chiefly situated in the middle of the ganglion, which show the typical "reaction at a distance;" that is, displacement of the nucleus to the side of the cell with chromatolysis. Where the changes are most in-

---

*Read in a Symposium on the "Fifth Nerve in its Neurological and Surgical Relations," before the College of Physicians of Philadelphia, April 20, 1900.

tense, nearly all the cells have undergone alteration. At the peripheries of this intense area altered cells are scattered in among healthy cells.

6. *Ganglion semilunare dextrum in case of tic douloureaux.* (Removed by operation, by Dr. H. W. Cushing, Jan. 15, 1900): The ganglion has been removed entire along with the stumps of the N. ophthalmicus, N. maxillaris, N. mandibularis and N. trigeminus. In Marchi preparations of the N. trigeminus a number of the fibers are markedly swollen and show diffuse fine black droplets. Similar changes are found in the N. ophthalmicus and N. maxillaris, though not to so marked a degree. There is, however, no outspoken typical Marchi degeneration in any of the nerves. The nerve-cells in the ganglion do not appear to be diminished in number; the size of the cells varies; there are rather more of the very large ones than normal. A great many of the cells are irregularly retracted into diffusely staining chromophile masses, leaving wide capsular spaces. Some of the cells not contracted are paler than normal, having less tigroid in the Nissl preparations. Still, a good many of the cells appear to have the normal amount of tigroid. The peripheries of the cells are irregular. The nuclei are, as a rule, centrally placed, round and contain normal-looking nucleoli. Yellow pigmented cells are abundant. Black pigmented ones are far less numerous. Concentric bodies are abundant in this ganglion, some of them being very large. The changes in this ganglion are very much less marked than in the next case. There is no increase of connective tissue. No vascular changes are to be made out, and no accumulations of foreign cells in the ganglion. The capsular cells are for the most part low and flat.

7. *Ganglion semilunare sinistrum in case of tic douloureux.* (Removed by operation, by Dr. H. W. Cushing, Jan. 17, 1900. Surgical number, 2907): The ganglion was cut into serial sections, some of them being stained by Nissl's method; others by hematoxylin and eosin, others by Van Gieson's method. The ganglion has been removed *in toto*, but is somewhat lacerated. The nerve-cells are generally normal in size, though some of the cells look swollen. A large number of the cells are irregularly retracted, leaving a wide capsular space, portions of the cell protoplasm sticking out like prongs to the periphery. The cells stain very irregularly; a large proportion of the cells are chromophile in the sense of Nissl, that is to say, they stain, by Nissl's method, a deep, dark blue color so that it is very difficult to make out anything of their internal structure. The nucleus can not always be seen, owing to the dark staining, but sometimes it can be made out and then is usually centrally placed. Throughout the deeply staining blue substance, pale, vacuole-like areas can be made out, and masses of yellow pigment are also present in these chromophile cells. Of the cells which are not chromophile, a large proportion are very pale, almost devoid of tigroid, the little that is present being situated at the peripheries of very small pale areas scattered through the ground substance of the cell body. The nuclei of these cells vary in size and shape; some of the nuclei look swollen; others look contracted. Nucleoli are frequently absent from the cells, although in many they are present and are normal in size and position. In a few the nucleolus is seen outside the nucleus, lodged in the cell protoplasm. In some there has been fragmentation of the nucleus, two and three pieces of the latter remaining side by side in the cell body. The pale cells in hematoxylin and eosin preparations show a delicate net-work-like appearance stained in hematoxylin. Scarcely any normal-looking cells exist. Cells with black pigment and with yellow pigment are present, the latter being more abundant than the former.

There are a few concentric bodies. There is no increase of connective tissues about the ganglion demonstrable. The small blood-vessels in the ganglion are dilated; there is no round-cell infiltration.

OPERATION IN TIC DOULOUREUX.

A few convictions with regard to operative measures in tic douloureux may here find expression:

1. If a ganglion be entirely removed there need be no fear of a return of pain from irritation of the stump of the N. trigeminus left behind, for all of the axons of this stump will degenerate to their terminations in the pons and medulla, down as far as the cervical cord. The end of a nerve in an amputation stump is not analogous.

2. Complete removal of a Gasserian ganglion utterly abolishes the possibility of calling forth sensations in consciousness by applying stimuli to the domain of peripheral distribution of the nerves connected with the ganglion of the corresponding side; retention of sensation on peripheral stimulation after operation indicates incomplete removal.

3. If pain persists, paroxysmally or continuously, after complete removal of the ganglion, or after evulsion of the N. trigeminus from the pons, the ganglion being left *in situ*, a lesion of the central neurons—of the second or of higher orders—of the trigeminal afferent conduction path is indicated.

4. In *tic douloureux* due to disease of the peripheral set of trigeminal sensory neurons, relief should be as complete and permanent by cutting the N. trigeminus between the ganglion and the pons and evulsing the central end without removal of the ganglion, as when the ganglion itself is excised.

PATHOLOGIC REPORT ON TWO OF THE GASSERIAN GANGLIA REMOVED BY DR. CUSHING.[*]

BY WM. G. SPILLER, M.D.

FROM THE WILLIAM PEPPER LABORATORY OF CLINICAL MEDICINE, UNIVERSITY OF PENNSYLVANIA (PHOEBE A. HEARST FOUNDATION), PHILADELPHIA.

The first ganglion was received hardened in Müller's fluid. Portions of the three peripheral divisions were cut separately from the ganglion, and were studied in transverse and longitudinal sections. The body of the ganglion was cut in the longitudinal direction, so that the sensory root and the second and third branches were obtained in the same sections and the relations of the parts could be studied. The stains employed were ammonium-carmin, hematoxylin (methods of Weigert and Delafield), acid fuchsin, osmic acid (method of Marchi) and the Rosin stain.

First Division: Weigert's Hematoxylin Method.—In examining a transverse section in which the decolorization has not been pushed very far and the connective tissue is stained a deep brown—a fair test of the degree of decolorization—one is impressed by the relatively few nerve-fibers which stain a deep black. In each nerve bundle many deeply stained nerve-fibers are found, but the majority of them stain gray or brown. The black fibers are naturally more conspicuous than those faintly stained. This imperfect staining is an indication of alteration in the composition of the medullary sheaths by which the normal chemical reaction with hematoxylin is prevented. Not every fiber, even in a normal nerve, stains deeply with hematoxylin, possibly because the medullary sheaths of normal nerve-fibers differ in composition, and degeneration and regeneration are constantly occurring in the same bundle; but such imperfect staining as is seen in this division of the ganglion is probably due to pathologic change. With the Weigert hematoxylin method not much swelling of the medullary sheaths can be detected, although some of the sheaths are swollen. When the decolorization is pushed so that perfect differentiation is obtained, chains of black dots, such as I have described elsewhere,[1] are seen in transverse sections of the medullary sheaths. This is indicative of disintegration of the myelin. Nerve-fibers do not stain evenly in normal sections, but we do not find such a circle of dots in most fibers in normal sections.

---

[*] Read in a Symposium on the "Fifth Nerve in its Neurological and Surgical Relations," before the College of Physicians of Philadelphia, April 20, 1900.

When the ammonium-carmin and Delafield's hematoxylin are employed the axis-cylinders are not colored very deeply. Some of the medullary sheaths are considerably tumefied, but most are of normal size. (Fig. 1.) Occasionally within a tumefied medullary sheath there is a large and irregular pink mass, the remains of an axis-cylinder, but usually the axis-cylinder can not be detected within a swollen medullary sheath. Many nerve bundles seem to be perfectly normal, and the diseased fibers are confined to certain bundles. A much diseased bundle may be found directly in contact with an apparently normal one—possibly there is evidence in this selective tendency of the process for the theory of a cellular origin of the disease. The axis-cyclinders are a little more prominent by the Rosin method, and some are distinctly enlarged.

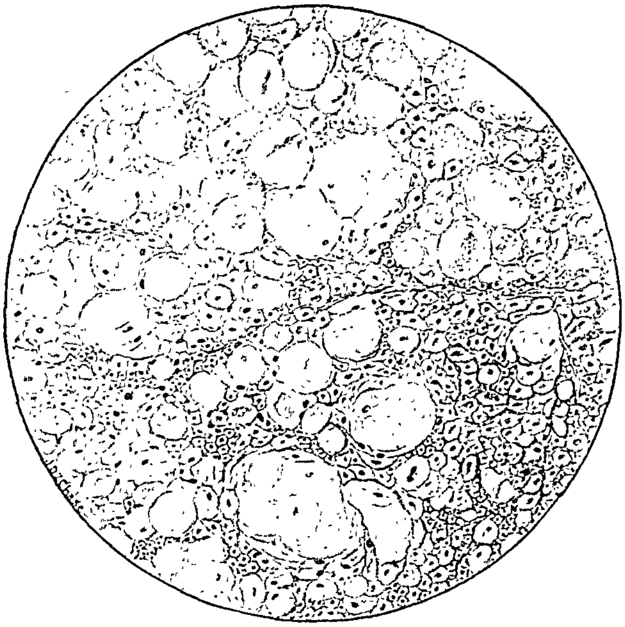


Fig. 1. Oc. 3; Ob. 7. First division by the carmin stain. Many of the axis cylinders and medullary sheaths are greatly swollen.

In longitudinal sections of the first division the tumefaction of certain of the medullary sheaths is very evident, and the axis-cylinders are frequently found altered. In some fibers a transverse cleavage of the axis-cylinders has occurred, and in others the axis-cylinder is swollen and of irregular shape. (Fig. 2.) The change in these is not as pronounced as in one of Dr. Keen's[2] cases, studied by me. Often the nerve-fiber has a distinctly fusiform shape, and in the enlarged portion the medullary sheath appears very granular.

Second Division: Weigert's Hematoxylin Method.—The nerve-fibers stain more intensely than those in the first division, but in some distinct tumefaction is seen, and the swollen fibers stain in black or light gray or brown, according to the degree of tumefaction, and have rather indistinct outlines when the tumefaction is marked. Some swelling of the medullary sheaths and axis-cylinders is seen by the ammonium-carmin stain. The axis-cylinders possibly take the carmin more deeply than do those of the first division. The blood-vessels do not appear to be greatly altered. The second division, stained by the Marchi method and cut longitudinally, shows a considerable accumulation of black dots in the nerve-fibers. This reaction will be mentioned further on in the description of the body of the ganglion. The tumefaction of medullary sheaths and axis-cylinders is not so evident in longitudinal sections as in those of the first division. In these sections also the vessels appear nearly or entirely normal.

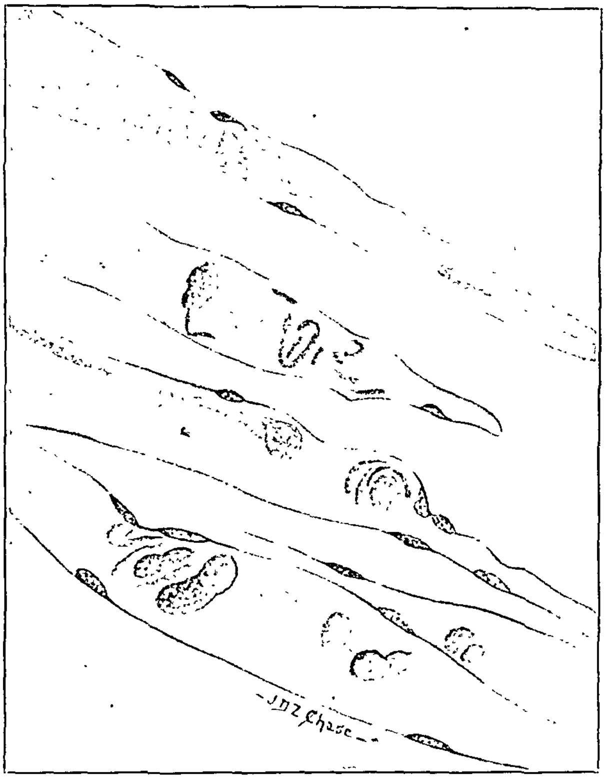


Fig. 2. Oc. 3; Ob. 1-12 immer. Swollen and degenerated axis cylinders within the ganglion (first division).

Third Division.—The description of the second division answers for the third, and in the latter also the tumefaction of certain medullary sheaths is distinct, and these swollen fibers stain gray with Wiegert's hematoxylin method. In the employment of the ammonium-carmin a tumefaction of some medullary sheaths with absence of axis-cylinders is seen, and in other parts distinct swellings of the axis-cylinders is evident.

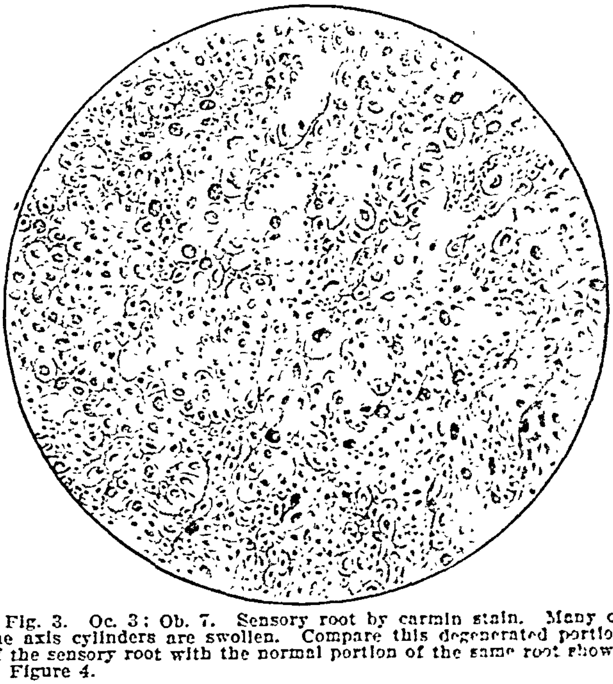


Fig. 3. Oc. 3; Ob. 7. Sensory root by carmin stain. Many of the axis cylinders are swollen. Compare this degenerated portion of the sensory root with the normal portion of the same root shown in Figure 4.

Sensory Root.—Many moderately swollen axis-cylinders are found in transverse sections of the sensory root stained with ammonium-carmin. (Fig. 3.) The tissue shows many open spaces, and as the root macroscopically gave evidences in its torn appearance of having been pulled upon, these breaks in the tissue might be regarded as artefacts. The swollen axis-cylinders are found only in this loose tissue, and the tumefaction of axis-cylinders could hardly be produced by surgical manipulation followed by immediate hardening of the tissue. Some of these spaces resemble those that are found when nerve-fibers have degenerated and dropped out, and this loose tissue may be regarded, in part at least, as the result of a pathologic condition. The swelling of the axis-cylinders is not attended by a proportional swelling of the medullary sheaths.

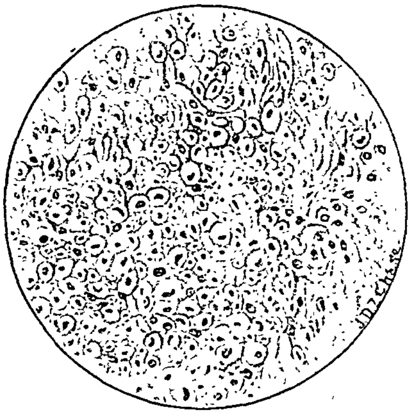


Fig. 4. Oc. 3; Ob. 7. Sensory root, normal portion. This is drawn with the same magnification as is the degenerated portion and should be compared with the latter (Fig. 3). In Figure 4 a smaller portion of the field has been drawn than in Figure 3.

The Ganglion Proper.—A space is seen between most of the ganglion cells and the surrounding capsules, and this is evidently due to the hardening process. Some nerve-cells stain deeply with the carmin, others more faintly—a reaction that is seen in normal tissue. The pigmentation of the cells is not excessive, and in almost every one the nucleus and nucleolus can be seen. The intercellular tissue can hardly be regarded as increased in amount. The vessels are not strikingly abnormal, and the small vessels have delicate walls. Some tumefaction of axis-cylinders and medullary sheaths is seen in certain parts, but the changes within the ganglion, as studied by the carmin stain, are not very intense. The Marchi method gives most interesting results. The medullary sheaths of many of the fibers passing to the peripheral branches show distinct degeneration (Fig. 5), and a similar degeneration is found within the ganglion. The sensory root presents a marked contrast; it is not entirely free from black dots, but black masses are found in normal nervous tissue in moderate amount when the Marchi stain is used. The sensory root does not exhibit the distinct evidence of degeneration seen in the distal end of the ganglion and the interior parts, and yet one might hesitate to say that this root is absolutely normal. (Fig. 6). Numerous concentric bodies—brain sand, concentric concretions, etc.—are found within the ganglion, but I have found these in many of the Gasserian ganglia of man that I have studied, and do not regard them as necessarily indicative of disease of the ganglion. (Fig. 7.) The motor root was not obtained.

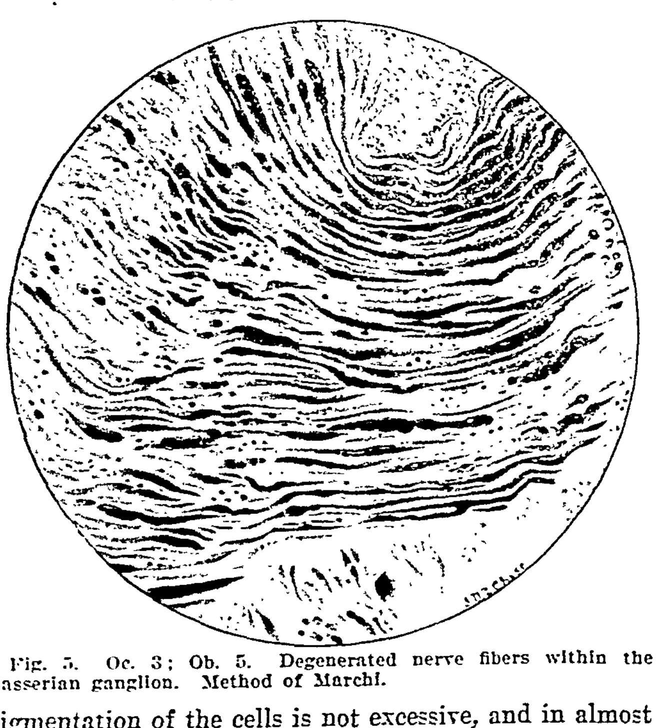


Fig. 5. Oc. 3; Ob. 5. Degenerated nerve fibers within the Gasserian ganglion. Method of Marchi.

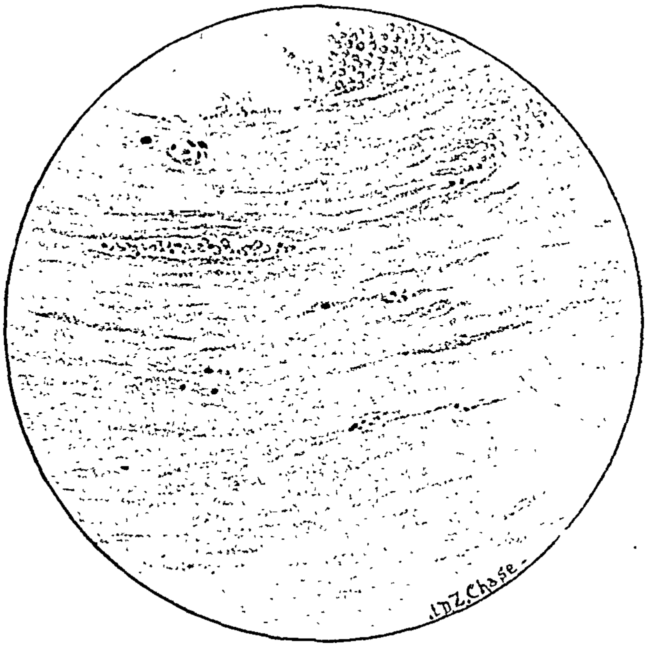


Fig. 6. Oc. 3; Ob. 5. Sensory root, normal, by Marchi's method.

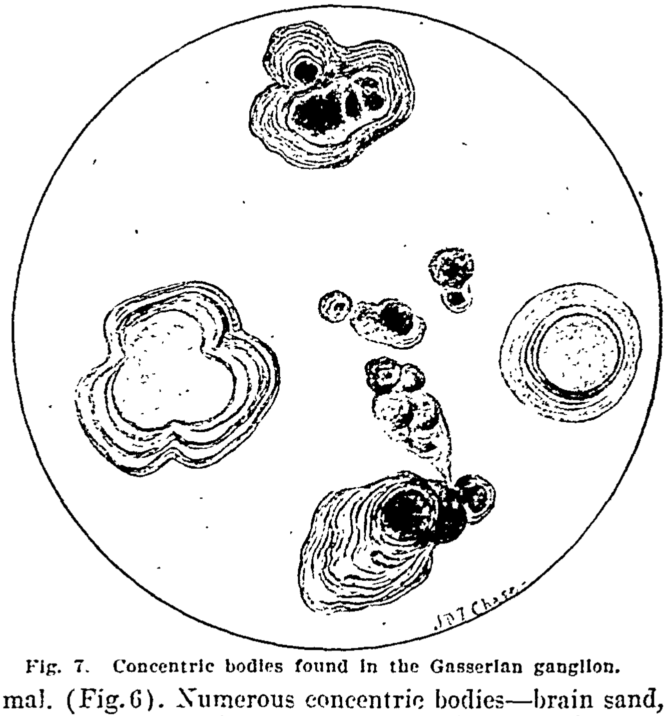


Fig. 7. Concentric bodies found in the Gasserian ganglion.

SUMMARY OF THE PATHOLOGIC CHANGES.

1. Tumefaction of medullary sheaths and axis-cylinders in certain bundles only, in all three divisions of the ganglion. 2. Tumefaction of axis-cylinders in a portion of the sensory root. 3. Numerous spaces in a portion of the sensory root, possibly resulting in part from degeneration of nerve-fibers. The sensory root, therefore, is not normal, and the condition in this root renders a return of the pain possible. 4. Quite intense degeneration by the Marchi method in the center and peripheral end of the ganglion and its peripheral divisions—a questionable change by this method in the sensory root.

The blood-vessels are not distinctly diseased, and no evidence is offered that the diseased condition of the nerve-fibers resulted from vascular degeneration. Neither do the nerve-cells, by the stains suitable to the method of hardening employed in this case, offer the slightest foundation for the theory of a cellular origin of *tic douloureux*.

MICROSCOPIC EXAMINATION OF THE SECOND GASSERIAN GANGLION REMOVED BY DR. CUSHING.

A description of this, if given in detail, would be very similar to that of the first ganglion.

First Division.—In some bundles the medullary sheaths are much swollen, and here and there a swollen axis-cylinder is found, especially in fibers cut longitudinally. An axis-cylinder may appear to be normal in one part of its course and swollen in another. The greater portion of the first division appears to be normal.

Second Division.—The condition of the second division is very similar to that of the first division. Some of the medullary sheaths and axis-cylinders are moderately swollen, but the greater number of nerve-fibers are normal. The small vessels contained within this division of the ganglion have thickened walls. The Marchi stain shows no distinct degeneration. This may partly be due to the hardening in formalin, for while this stain may be employed with formalin-hardened preparations the results are sometimes less successful than with Müller fluid preparations.

Third Division.—The third division is more altered than either of the other two; more nerve-fibers are diseased and the tumefaction of the medullary sheaths and axis-cylinders is greater. No alteration is detectable by the Marchi method.

Ganglion.—Most of the nerve-cells appear to be fully or nearly normal, but some are deeply stained and much shriveled. (Fig. 8.) The cells of the ganglion vary normally in the intensity of their coloring and size, but in the sections of this ganglion the cells which are shriveled are the ones most deeply stained by thionin. The ganglion was hardened in formalin soon after removal, and these shriveled cells can hardly be regarded as artefacts. Most of the cells extend to their capsules without leaving pericellular spaces, and the peripheral portion of the cells contains fewer chromophilic elements than the central portion, and these elements next to this clear peripheral zone are larger and more deeply stained than the others. We know, from v. Lenhossék's description of the cells of the spinal ganglion, that these cells of the Gasserian ganglion are normal. The nucleus is usually very sharply defined and central and the nucleolus deeply stained, but some nerve-cells are greatly shriveled and deeply stained, and in some the nucleus is peripheral. Some cells are also deeply pigmented.

Sensory Root.—The sensory root is normal.

So far as I know the condition of the sensory root of a ganglion removed for trificial neuralgia has been reported in only two cases—one by Krause, and one by myself. Krause found the sensory root diseased and I found it normal. In Krause's case pain returned on the other side of the face. We can not say whether or not the occurrence of pain on the side from which the ganglion was not removed was caused by the diseased sensory root of the opposite side. In Dr. Cushing's first case the axis-cylinders of the sensory root were not normal. The tumefaction in these fibers was not excessive, and yet it was sufficient to lead me to believe that a recurrence of the pain in this patient is possible. I have examined the sensory root in three ganglia removed on account of prosopalgia, and only in this one case have I found this root diseased. When we remember that the sensory root of the fifth nerve passes to the sensory nucleus in the tegmentum of the pons, and that many of its fibers descend as the spinal root of the fifth nerve so low as the upper part of the spinal cord, we see that its fibers are distributed over a large area, and that when this root is *diseased the diseased fibers are distributed over a considerable extent of the central nervous system.* When the Gasserian ganglion is removed the cells in which this root arises are destroyed and the root probably degenerates throughout its length, and it probably loses the power of transmitting any form of irritation after removal of the ganglion. *If the root is found diseased at the time of operation, it indicates that the degenerative process has extended centrally beyond the Gasserian ganglion, and the danger of a recurrence of pain is probably greater than when the root remains normal.* It occurred to me that possibly the moderate tumefaction of the axones in the sensory root in Dr. Cushing's first case was *produced by pulling on the root at the time of removal.* The normal condition of the sensory root in the other two cases examined by me hardly permits such a theory. I have taken the sciatic nerve from a cat soon after death, and have forcibly pulled it apart, placed it in Müller's fluid, and examined the axis-cylinders, but I was not able to find the tumefaction of the latter. I fear, therefore, that *we must regard the sensory root of Dr. Cushing's first patient as diseased.*

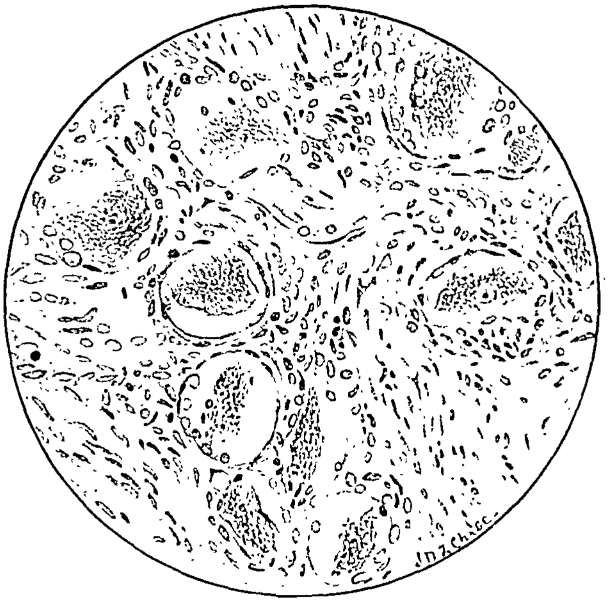


Fig. 8. Oc. 3; Ob. 7. Atrophied nerve cells within the Gasserian Ganglion (method of v. Lenhossék).

In the second ganglion removed by Dr. Cushing the nerve-cells are diseased. This ganglion was placed in formalin and in its preparation the thionin stain of v. Lenhossék could be [illegible] V. L[illegible] has [illegible] such an admirable description of the cells of the spinal ganglion in man that we know the appearance of cells of a normal Gasserian ganglion very well. Most of the cells in this second ganglion are normal, but many are intensely shriveled and deeply stained. It is difficult to believe that these cells are artefacts. The degenerated condition of these cells does not prove that the primary lesions of trifacial neuralgia are in the Gasserian ganglion. The diseased cells are not confined to any one part of the ganglion. Once of twice before I have referred to the investigations of Lugaro and others. These observers found that the cells of the spinal ganglion belonging to the sciatic nerve were much altered when this nerve in the dog was cut, but that no distinct changes in the ganglia were present when the posterior roots or the posterior columns of the cord were cut. Lugaro concluded that the cells of the spinal ganglion are altered in lesions of their peripheral processes, but not in lesions of their central processes. The peripheral process of the nerve-cell in the Gasserian or spinal ganglion has been compared with the dendritic process of the nerve-cell of the spinal cord, and the behavior of the nerve-cell of the ganglion after division of its peripheral process as compared with its behavior after division of its central process indicates that these two processes are of different functional importance. With these facts before us the alteration of many of the nerve-cells in Dr. Cushing's second case is no proof of the primary lesion being in the ganglion. The second division of the nerve had been resected six years previously. Whether the cellular alteration was due to this I can not say, but it is not probable that it was. In this second case the sensory root was normal. We should naturally expect to find many of the nerve-fibers of this root diseased where many of the cells of the Gasserian ganglion are diseased, but nerve-cells may be more altered than the axis-cylinders arising from them.

A Gasserian ganglion removed on account of trifacial neuralgia and examined by Head,[3] by the Nissl method, was found to be normal, and the nerve-cells so perfect that they could be used as standard specimens of normal staining of the cells of the ganglion. It is a pity that Head does not give the details of this case. With this exception I know of no published report of the examination of the cells of the Gasserian ganglion by Nissl's method in a case of trifacial neuralgia.

In Dr. Cushing's first case the blood-vessels were not distinctly diseased. This would seem to indicate that in this case at least the process was not primarily vascular.

Recently two cases have been reported in which the Gasserian ganglion was removed and pain returned on the same side of the face (Friedrich,[4] Garrè[5]), but fortunately these cases are exceptions.

BIBLIOGRAPHY.

1. Spiller (cited by J. K. Mitchell): Jour. of Nervous and Mental Dis., 1898.
2. Keen and Spiller: Am. Jour. of the Med. Sci., Nov., 1898.
3. Head, Henry: Allbutt's System of Med., vol. viii, p. 724, et seq.
4. Friedrich, P. L.: Deutsche Zeitsch. f. Chir., vol. lii, 1899.
5. Garrè: Archiv f. Klin. Chir., vol. lix, p. 379.

A PATIENT—a young girl—in a French sanitarium slipped into the water-closet and bolted the door on her special attendant, then hung herself with a strip of cloth. Her father sued the physician in charge of the sanitarium for negligence and, according to the *Gazette Méd. de Paris*, the courts have awarded him the amount of his claim, $2000. He stated that he had called the physician's attention to the possible dangers of these retiring rooms, as his daughter had tried to commit suicide before.

SURGERY OF THE FIFTH NERVE FOR TIC DOULOUREUX.[*]

BY ROBERT ABBE, M.D.
SURGEON TO ST. LUKE'S HOSPITAL.
NEW YORK CITY.

It is the uniform experience of surgeons that there is no more fearful pain for a patient to endure than the persistent recurrence of what one of my patients always called "crashes of pain" in the side of the face. Its immediate, though transient, relief by simple section of the superficial nerves, is so much like the magic of art that it has been given as wide a trial as it ever should have. Brodie's reference to the "notorious failure of nerve section," in permanently relieving tic douloureux, echoed by Velpeau, Stromeyer and others of that time, is more emphasized to-day by accumulating experience. The accepted explanation of its failure, in that reunion of nerve channels is effected by natural laws of repair, has led to so many attempts to overcome this mischievous act of nature that we may now consider the success and failure of each and learn their relative values.

If the cause of pain is central, we may rightly assume that operation on the superficial nerve will not destroy the pain sense of the patient—hence it is useless. If the cause be peripheral, we must so far destroy the communicating channel as to prevent bridging over the gap by any reasonable reparative action. Hence the value of extensive resection of the nerve seems to be in direct proportion to its extent.

As the resection of the infra-orbital part of the second branch was replaced by Langenbeck's division on the floor of the orbit, and resection anterior to that, so the latter was displaced by Carnochan's more extensive resection from the foramen rotundum to the cheek. This latter has held its own with more recent methods and may now be fairly considered alongside of the Salzer and intracranial methods.

To speak of the Carnochan operation as "having been done" does not rightly justify the addition of many so-called cases in a statistical list, for like other difficult and dangerous operations it is possible to half do it by a bungling method, poor assistants, bad light, inadequate instruments or encountering very hard, unmanageable, posterior antrum walls.

I have had a case said to have had the operation done before, where I found much of the nerve still remaining. In my own experience I have found considerable inequality in extirpation of the nerve and branches. In judging of the value of methods, all who have had a varied experience may give weight to their personal views. In every field of surgery the statistical method is no more a criterion of value than what I would call the "personal impression" method. I do not hesitate to say, therefore, that the Carnochan operation, thoroughly done, holds a high rank with the deeper and more serious operations, and does not share their gravity.

In emphasizing the value of this operation on one branch only of the fifth nerve, I have often noticed that while the patient has designated the supra-orbital and lower maxillary branches as sharing the neuralgic pain, these two are as a rule at once and completely relieved by operation on the middle branch. Thus we can fairly ascribe much of the pain to reflex effect from some part of one branch to its neighbors. There is also a pain-sense, or pain memory, as we may call it, shown in some cases of aggravated and inveterate tic which lingers for a few days in occasional cases, no matter which method of operation has been adopted. Although the majority of operations give instant relief, the patient may complain of the old pain for as long as a week afterward, and then it leaves and he remains cured. This exhibition of persistence of pain I have seen oftener in those who had resorted to morphin. As a rule the morphin habit engendered by tic is entirely dissipated by operation.

---

[*] Read in a Symposium on the "Fifth Nerve in its Neurological and Surgical Relations," before the College of Physicians of Philadelphia, April 20, 1900.

My personal experience in operations on the fifth nerve's branches, excluding all those on the inferior dental and on the supra-orbital, includes somewhat more than twenty cases; but of that number only I have notes: intracranial (Hartley's method), 5; Salzer, 4; Carnochan, 11.

Seven patients were 60 years or more, 3 between 50 and 60, 3 were 32 years and 7 from 32 to 50 years of age.

There was but one death, that of a woman 63 years old, with severe tic. She had borne the Hartley operation well, with section and evulsion of the *second and third* branches. When I was about to close the wound the patient made two feeble attempts to vomit, and breathing and heart action ceased simultaneously. Every effort at stimulating and artificial respiration, even with the Fell-O'Dwyer respirator, *failed to* resuscitate her.

In reviewing the five intracranial cases, I find most gratifying material to report:

The first patient was a woman of 60 years who had been subjected to a Salzer operation two years before, and had recurrence in three *months*. The intracranial resection was done with much ease. The second and third branches were seized with forceps and evulsed from the ganglion after section at the foramina and forcing out the stumps. *The* patient was freed from pain and left the hospital on the eleventh day. Two months later she died of pneumonia.

The second case was a most aggravated one of eleven years, in a woman of 65. I operated it in 1895, by Hartley's method, evulsing the second and third *nerves* from the ganglion. The woman was at once relieved and remains absolutely free from pain and in good health, approaching five years from the operation (letter received yesterday).

The second patient was a frail woman who had suffered for two years from severe trifacial *neuralgia* extending even to the *neck*; the operation was done after the usual Hartley method, and this is the case spoken of previously as a death under anesthesia, from fatty heart or shock.

The fourth, a man, aged 46, had become distracted almost to suicide by inveterate trifacial neuralgia of three years' standing. In July, 1896, I resected the intracranial portion of the second and third branches, between the ganglion and foramina; the operation was suspended on the first day, on account of grave hemorrhage on every side, while exposing the ganglion. The packing was removed the second day and dissection continued; again profuse bleeding and packing of the wound. At the third attempt, excellent exposure of the nerves was obtained, and each being grasped by a broad clamp was cut off and then evulsed from the ganglion, only half an inch being torn out, but with profuse bleeding, which again required packing. When the hemorrhage was controlled, an attempt was made to curette away the Gasserian ganglion, but again bleeding forbad it.

NEW [illegible]

Fearing that the [illegible] canals to the torn Gasserian [illegible] function and pain, I interposed [illegible] gutta-percha tissue, more than [illegible] an inch wide, which [illegible]. This I pressed down by [illegible] was continued [illegible] twenty-four hours [illegible] day after [illegible] the gauze was removed, the [illegible] flat on the bone and the [illegible] it. Primary union [illegible] the patient remains in perfect [illegible] her as left at operation [illegible] shown in the illustration, [illegible] months afterward, [illegible] Society, October, [illegible]

[illegible] branches excised; [illegible] years. Dotted surface shows [illegible] thesia.

The fifth intracranial [illegible] class, but in a woman of 61, [illegible] gravest way for twenty-four [illegible] branches were affected and there [illegible] sure over the external foramina, with [illegible] peated shocks of pain. I did the intracranial [illegible] in July, 1897, and resected only the [illegible] second and third divisions, between the foramina and the ganglion. I made no attempt to [illegible] turb the ganglion. The hemorrhage was slight and I carefully interposed a sterilized gutta-percha tissue layer between the Gasserian and bone, so as to more than cover both openings. Primary union of the wound and instant and permanent relief followed. At this date—nearly three years after—I have examined her and find perfect health and no trace of pain. Anesthesia remains as after operation.

Thus, in the *five* intracranial cases, three remain cured, after the lapse of three, four and five years.

I have operated on four cases after the Salzer method. The first was a woman of 60 years, operated on in June, 1893, with most satisfactory resection of portions of the second and third branches at the foramina rotundum and ovale. Recurrence of pain occurred in three months, and she was subjected to the intracranial method (Case one).

The second patient, a woman of 50, had [illegible] ing for five years and [illegible] my operation. Recurrence was in a moderate degree only, and I have never cared to subject her to the intracranial operation, on account of her general weakness and digestive disturbance.

The third case was in a lawyer, aged 32, who had suffered for ten years and had three operations on his inferior branch, by Halsted and Hunter Maguire, with relief a few months only after each. I did a resection of the second and third branches at the foramina retundum and ovale, by a modified Salzer operation, two years since, with instant and permanent relief. I interposed a piece of sterile rubber tissue also in this case, between the resected ends of nerve in the sphenomaxillary fossa, and it remains there after two years.

The fourth case was in a man of 52 years, who had been suffering five years on the right side. A modified Salzer operation was done, with clean excision of a portion of the second and third branches at their exit from the skull. There was immediate relief and he has had not a twinge of pain since then, two years after the operation.

By the Salzer method there were no deaths. By the modified Salzer, adopted in two cases, I found it easy to expose the nerves in the sphenomaxillary fossa, by splitting the temporal muscle fibers vertically, without cutting the coronoid process, simply dividing and depressing the zygoma. When stretched by retractors, ample space was afforded and the coronoid could be lowered by opening the mouth at the same time. Thus the partial anchylosis following the usual Salzer method was avoided.

THE CARNOCHAN OPERATION.

This has been rather a favorite with me and represents 11 of the 20 severe cases operated on. Two patients were 32 years and 4 about 60 years of age; the others ranged between. I have been able to follow 8 of the 11 cases; 1 remains cured after twelve years; 1 after ten years; 1 died after six years, cured; 1 remains cured at five years; 2 remain well after one year; 1 was not relieved even by subsequent operation by Dr. Keen (case reported of Gasserian ganglion); 1 remained well at two years, when he was lost sight of; 3 were relieved and lost to view.

The possibility of thorough removal of the nerve behind the Meckel's ganglion is well shown in the specimen passed around, where the two filaments going to that ganglion are shown.

I have been interested in noticing cases of previous operation for removal of a large branch, that the foramen of exit closes when of no further use. Thus the mental foramen soon wastes to the size of a pin-point after the removal of the inferior dental nerve.

The anesthesia following Hartley's, Salzer's and Carnochan's operations is interesting. The removal of the second and third branches inside the skull leaves the half nose, cheek and upper lip only numb, but not completely anesthetic, as is the rest of the face, owing to a nasal branch of the ophthalmic, which covers the same distribution as the orbital branch of the superior maxillary, which comes off between the external and internal foramina. When the Salzer incision is made, this branch escapes and the nose, cheek and upper lip are often fully sensitive.

In conclusion, my experience leads me to advocate a thoroughly done Carnochan operation, with clean resection of the second branch to the foramen retundum, for most bad cases, even when the first and third branches seem to share the neuralgic shocks. The latter are usually relieved by operation on the middle branch. If one chooses to do the Salzer, which has some advantages in being less severe than the intracranial and more thorough than the Carnochan method, then I advise a section of the zygoma turned down with skin, and a muscle splitting of the temporal rather than coronoid section. If the intracranial method is adopted, as it must be in many grave cases, I advocate the simple section and limited excision of the second and third branches from the Gasserian to the foramina, and interposition of a piece of sterile rubber tissue, impermeable and non-conducting, adequate to cover both openings. I see no reason for believing that the resection of the Gasserian ganglion is necessary to the thorough severance of nerve connection with the brain. This step may be the greatest element of danger and, unless a tumor of the ganglion exists, is uncalled for. If a tumor exists it seems useless. In most cases of inveterate tic a chronic neuritis exists, usually of the middle branch. Hence the quick and permanent cures which we are able to record by excisions anterior to the Gasserian ganglion.

13 West Fiftieth Street.

NATURAL HISTORY OF TIC DOULOUREUX, WITH REMARKS ON TREATMENT.[*]

BY CHARLES L. DANA, M.D.
NEW YORK CITY.

If we hope to judge wisely as to how much good certain forms of treatment do for tic douloureux, we must know its natural history, which is not yet very fully understood. For though the disease is common, its origin is often unexplainable and there is none in which so much desperate effort is made to break up the course of the attacks and interfere with the natural symptoms. I have thought, therefore, that I could serve the purposes of this discussion best by devoting a good part of my time to this side of the subject.

It is one of the advantages of somewhat mature years that we are able to take a wider view of the course and of the history of the diseases as shown in our patients, and I have been able to make a close study of a number of my own cases from the beginning to the end. What I have to say now is based very largely on the recorded history of over fifty cases of tic douloureux, some of which I have had under observation for from five to ten years, and most of which I know the entire history of from the outset.

Pathogenesis.—Tic douloureux is, as I understand it, a degenerative neuralgia occurring in the great majority of cases, at or after the middle period of life and due to a degenerative change, sometimes amounting to neuritis, in the nerve and its ganglion, and probably in the bloodvessels which supply it. It attacks women[1] about twice as often as men, taking the whole period of the disease, but it rarely attacks men before the age of 40. I have seen only three cases of this kind of tic douloureux in a man under that age, whereas there have been ten women in whom the disease began under that time. Thus, it may be said to be at least three or four times as frequent in women under 40 as it is in men.

There is rarely any distinct hereditary taint, still, I have had one patient, aged 46, whose father suffered from the disease at the same time. In another patient the grandmother had tic during her old age, and in a third the mother also had it. The most common neurosis found in the family is that of migraine, but this is so common generally that it can hardly be said to count in the personal history.

---

[*] Read in a Symposium on the "Fifth Nerve in its Neurological and Surgical Relations," before the College of Physicians of Philadelphia, April 20, 1900.

[1] As to sex, among 57 cases there were: males, 20; females, 37. Under 35 there were: males, 3; females, 10. Over 35: males, 17; females, 27. Ages at onset of disease: 20 to 30, 5; 31 to 40, 7; 41 to 50, 7; 51 to 60, 17; 61 to 70, 15; 71 to 80, 5; 81 to 90, 1. Side affected: right, 22; left, 14.

The most common previous nervous disorder in the patient, however, is also that of migraine, which I find in one-fourth of my patients. A common exciting cause is some overwork or strain. (14 per cent.)

No doubt many have observed that the initial disease begins as an acute trigeminal neuritis associated with herpes. This was the case in six of my patients. This fact of an initial herpetic neuritis is one of much importance as pointing to the origin of the disease in some cases from an infection causing a distinct peripheral neuritis. In a number we find that the cause is a local disease of the gums or tooth. In about 20 per cent. then there is an initial neuritis or local disease. I have also seen it start as the result of la grippe in three cases, and of exhausting hemorrhage in another.

Tic douloureux is, in the vast majority of instances, a disease of the second or third branch of the trigeminal nerve. It is extremely rare for it to begin in the ophthalmic, or remain localized in that branch alone, whereas it often affects the second and third branch alone for a long period of time. Among forty-five chronic cases I find only one instance in which the trouble was confined alone to the first or upper branch of the fifth nerve.

Types.—Cases which begin in women in early life have always been a puzzle to me, and I have always been doubtful as to their true character, although they do eventually seem to assume the type of a true tic. In carefully studying my own histories, it seems to me that these early ones are to be explained in this way: The patients are almost always young women suffering from migraine, and their trouble is preceded by frequent attacks of this trouble. After a number of years this migrainous disorder seems to become chronic and in a measure localized. It then settles in the second or third, or perhaps all three branches of the nerve. Such patients have, however, in addition to the sharp pains along the course of the nerve, diffused pains involving the head and often each side of the face. Cases that develop at the degenerative period of life are rarely associated directly with migraine, although one often gets a history of some migrainous trigeminal neuralgia, or attacks of migraine occurring early in life. The malady, however, often seems to settle down on the nerve as the result of the exciting causes already referred to, although referring to no particular predisposing neurosis.

I am disposed, in view of the facts referred to, to think that there are at least two particular and distinct types of tic douloureux, not including the purely symptomatic pains due to extra-neural disease.

The first I should call the migrainous type of early life, and I consider it an evolution of a definite trigeminal neuralgia on the basis of a migrainous neurosis. It is seen oftener in women. The trouble is originally central and not a disease of the Gasserian ganglion. Later it is possible that the fibers of the trigeminal nerve, through some inherent defect, incur degenerative changes and a true degenerative neuralgia develops. But it is to be borne in mind that in the early stages at least there is very little real disease in the fifth nerve. It is a disorder of the central sensory neuron.

The second type is the more common one, occurring after the age of 40 and affecting men at least half as often as it does women. Here the disease sometimes starts as a true infective neuritis in the form of a herpetic or ascending neuritis, due to some local disease of the gums or the antrum, or the osseous tissues. Some of these herpetic forms run an acute course, lasting only a few weeks or months, and are easily cured.

Tic douloureux is sometimes purely symptomatic of local disease of the bone, of a tumor, etc.

Natural Course.—The natural course of these different forms of neuralgia is somewhat as follows: The persons who suffer from migrainous tic in early life, finally localizing itself as a true tic, rarely get cured, but have a long and tedious period of suffering. The prognosis is more unfavorable than that of ordinary migraine; however, like the latter, under exceptionally good constitutional conditions, periods of long remission occur, and sometimes the trouble spontaneously disappears. This tendency to disappear is probably somewhat increased after the age of 50, just as is the case with migraine, and I have a patient in whom the whole trouble disappeared at this age, after she had had a tic for twenty-nine years, the cause of the cure being asserted to be "Christian Science."

These cases also of the migrainous type, so far as my experience goes, are made worse by the ordinary operations for tic. I do not know what the result of the removal of the Gasserian ganglion would be in such early cases, but I have never seen any cures from the other minor surgical operations, although I have had a number of patients who have had these made on them at different times. Such operations may give temporary relief, but not always. Patients of this class are ill adapted for operation, because the trouble does not lie exclusively in the trigeminal nerve, but also in the central nervous system.

Of the second class of patients the natural history is more definitely known. Among seventeen cases of which I have definite histories from beginning to end, in seven the disease has stopped or has been cured. In six others it has been improved and kept under control, while in four its progress has not been affected by anything that has so far been done. Thus it appears that in at least 20 per cent. the disease is amenable to treatment or is relatively benign.

In these cases in which the trouble has been relieved entirely for a period sufficiently long to feel that it is practically under control, one attributes this relief to animal magnetism, two to operations, three to the minor operations of removing the tooth and washing out the antrum, one to "Christian Science" and the remainder to various measures, mostly the use of strychnin, tonics and rest or the natural course of the disease. With two exceptions all the cases which were relieved or cured occurred in persons in whom the trouble began after the age of 40, and in whom it had been lasting for not more than eight years, the average being about four

The average duration of the disease, in which the malady stopped or was brought under control without any very definite or special medical treatment, was about five or six years, and my conclusion is that tic douloureux, beginning in persons at the age of 40 or over, has a natural tendency to run its course, this course ranging from five to twelve years. It usually reaches its height at the fifth or sixth year, and then has a tendency in some cases to spontaneous cure. The duration[2] of noncurable forms may be the even life of the patient. I have seen cases in which the duration was twenty-nine and thirty-two years, others where it lasted twelve, seventeen and eleven.

---

[2] Duration of cases: cured or well-controlled without surgical measures—At 55 to 60, 5 years; 64 to 72, 8; 55 to 59, 4; 66 to 69, 3; 61 to 64, 3; 21 to 50, 29; 60 to 66, 5; 57 to 61, 4; 58 to 61, 3; 58 to 63, 5; 61 to 71, 10; 52 to 58, 6. Side affected: right, 22; left, 14.

One of the most characteristic features in the natural history of tic douloureux is its tendency to remissions. These occur for periods of one or two months, but they can be artificially produced by various methods of treatment. The surgical treatment will usually produce a remission of one-quarter to one-half a year; the medical treatment will often produce remissions of from six to ten months. These can be renewed by further systemic therapeutics. After the disease is long established, however, i. e., after six or seven years, there is apparently no measure, except a surgical one, which will absolutely and surely stop it. The surgical operations, except those for the removal of the Gasserian ganglion, produce only temporary remissions; all the medical measures have the same effect. As to the relative efficacy of the two measures, I can say, without any bias, that in most cases we can secure a remission by the medical measures almost as certainly as we can by surgery, except by the major kind. No drugs, however, and no surgical operation will arrest the disorder permanently. They will only lengthen the remissions and perhaps shorten the course.

It is perhaps known that for some years I have advocated a systemic treatment for tic douloureux, by means of heroic doses of strychnin. After experimenting with this method of treatment for now over six or seven years, and including about fifteen cases, I have reached this conclusion regarding it: In early cases of this kind, that is to say in the first and second years, the strychnin treatment will almost invariably arrest or control the disease in anemic and exhausted patients. In cases that have lasted over six or seven years, and in those with neuritis and sclerosis, the result is doubtful, and there may be a failure to secure even a remission. In anemic ones, however, even of long standing, it is often more effective, though relapses will occur. Among fifteen cases I have had only four distinct failures. In the very old cases, lasting fifteen or twenty years, medical treatment is practically valueless, no matter what is done.[3]

I have few favorable statistics to report of the results of surgical operations. I have seen absolutely none in which these succeeded in curing the patient, although one of my cases included that of a patient in whom the Gasserian ganglion was removed. I have seen operations, however, produce remissions lasting for two years. I have, as already stated, had three patients in whom the trouble ceased after the tooth had been removed and the antrum washed out. In no case have I known relief by the removal of teeth, or at least nothing more than temporary relief. Among 42 cases, 11 had had 24 operations, with no permanent cure in any case. One only was that of removal of the Gasserian ganglion.

As to the general matter of treatment it is better to record experiences than opinions. I have seen one case apparently helped by the opium treatment; but it is dangerous and not usually effective. Three of my patients had become opium habitues. Three patients, after long courses of medical treatment, and in one instance after an unsuccessful operation, were cured by removal of a tooth and washing out the antrum. In another this did no good. One patient thinks she was cured by animal magnetism, and one by "Christian Science." Remission followed in one case after prolonged use of the static breeze an hour daily for two months. This I believe was purely a natural remission. One patient had her ovaries removed with the result that the face was worse and she had a vaginal neuralgia.

I have seen little good result from aconite or from any of the benumbing or narcotic drugs. Medical treatment is most successful which is addressed to the arthritic state, when that exists, and to the arterial sclerosis and gouty taint. In some of this latter, men of full habit and hard arteries tonic measures do harm and after a course of rest and arteriosclerotic or neuritic measures, surgery should be promptly applied. All measures will be more effective if applied at the beginning of the disease, and again at the fourth or fifth year when the trouble is at its height; or again at the period of the climacteric in those whose neuralgia began relatively early in life.

In conclusion, therefore, I should say that the early forms of tic douloureux, such as I have called a "migrainous tic," occurring usually in women, should not be operated on. There are some exceptions to this, however, in which tic douloureux occurs in early life, due to a distinct local disease, such as an inflammation of the nerve, or of the antrum, or of the jaws. In true tic of the degenerative period of life, prompt medical treatment will usually control the disease and operation is rarely indicated at first. In tic which has lasted three or more years, it may be safely said to the patient that medical treatment may produce a remission and that this remission may be repeated and that eventually the disease may be controlled by repeated treatments, but this is not at all sure. It may be said here too that a minor operation may give more relief than medical treatment. The question of prescribing major operations must be decided in each individual case, on its special merits.

TABLE SHOWING DURATION AND TREATMENT OF 42 CASES.

1. Male. Duration, 55 to 60; spontaneous cure.
2. Male. Duration, 64 to 72; strychnia; relieved; eight months relapse: cured for 3 years by removal of tooth and washing antrum.
3. Female. Duration, 55 to 59: 3 operations; no relief; strychnia; remission 6 months; strychnia; remission 8 months; cured—animal magnetism 10 months.
4. Female. Duration, 66 to 69; strychnia; improved—fairly well 2 years.
5. Male. Duration, 61 to 64; strychnia; relieved 1 year; slight remission; relieved 2 years.
6. Female. Duration, 21 to 50; strychnia; no result; cured by washing out antrum and Christian Science.
7. Female. Duration, 60 to 66; strychnia; relieved; remission; cured by washing out antrum; patient took morphia.
8. Female. Duration, 57 to 61: strychnia; relieved; disease controlled 2 years.
9. Male. Duration, 22 to 31; operation; relieved for 2 years; return.
10. Male. Duration, 31 to 33; strychnia; total failure; operation; no return in 1 year.
11. Female. Duration, 58 to 63; strychnia; relieved; disease controlled 2 years.
12. Female. Duration, 68 to 71; strychnia; relieved 6 months; remission; relieved again; disease still under control.
13. Female. Duration, 52 to 58; strychnia; relieved for 1 year; strychnia; no relief; patient lost sight of.
14. Female. Duration, 55 to 57: strychnia; relieved for 8 months; relapse?
15. Female. Duration, 31 to 47; strychnia; slight relief.
16. Male. Duration, 31 to 35; static electricity; remission 2 months; static electricity; remission 6 months; static electricity; remission 2 months; operation; no relief; strychnia; remission 4 months; strychnia; remission 4 months; return.
17. Male. Duration, 61 to 63; strychnia; no relief; disease still continues.
18. Female. Duration, 25 to 65; 3 operations; no relief; strychnia; no relief.
19. Female. Duration, 30 to 44; 2 operations; no relief.
20. Female. Duration, 45 to 52; strychnia imperfectly given; no relief; disease disappeared; patient suffered from melancholia.
21. Male. Duration, 50 to 62: operation; no relief; 3 other operations; no relief.
22. Male. Duration, 31 to 40; no regular treatment; patient somewhat better.
23. Female. Duration, 65 to 72; 2 operations; no relief; strychnia: no relief.
24 Female. Duration, 24 to 42; not heard from.
25. Male. Duration, 46 to 48; strychnia; somewhat improved.
26. Female. Duration, 25 to 28; relieved without any special treatment.
27. Female. Duration, 45 to 52; morphia.
28. Female. Duration, 30 to 40; nasal pain.
29. Male. Duration, 58 to 67.
30. Male. Operation; relapse.

---

[3] The details of the technique of this method are given in full in the Post-Graduate, July, 1895, and in the 4th edition of my Text-Book of Nervous Diseases.

31. Female. Duration, 82 to 88; 2 operations; relief 4 months; operation; no relief; medical treatment 6 months; pain ceased; patient died 4 months later of old age.
32. Male. Duration, 33 to 43; strychnia; relief.
33. Male. Duration, 51 to 54; strychnia.
34. Male. Duration, 50 to 60; strychnia; relieved.
35. Male. Duration, 39 to 47; operation; relieved 1 year; strychnia; improved.
36. Female. Duration, 66 to 68; strychnia; relief.
37. Female. Duration, 60 to 65; general medical treatment; relief; lost sight of.
38. Female. Duration, 53 to 56; medical treatment; relief.
39. Female. Duration, 55 to 60; medical treatment; lost sight of.
40. Male. Duration, 55 to 61.
41. Female. Duration, 71 to 75.
42. Female. Duration, 23 to 35.

OPERATION FOR EXSTROPHY OF THE BLADDER BY SONNENBERG'S METHOD.

BY J. RILUS EASTMAN, M.D.
INDIANAPOLIS, IND.

In January, 1899, a classic case of exstrophy of the bladder in a boy 13 years of age was brought to the writer's notice. The condition of the kidneys was such that rectal implantation of the ureters as a means to relief was not to be considered. The urine discharged from the left ureter contained crystals of the salts of urates and phosphates in great abundance, blood casts, epithelium and epithelial and granular casts. Traces of albumin were also present. The urine from the right kidney was much clearer, of very little more than normal specific gravity, and contained a few granular casts and some epithelium. There was continual pain in the left lumbar region.

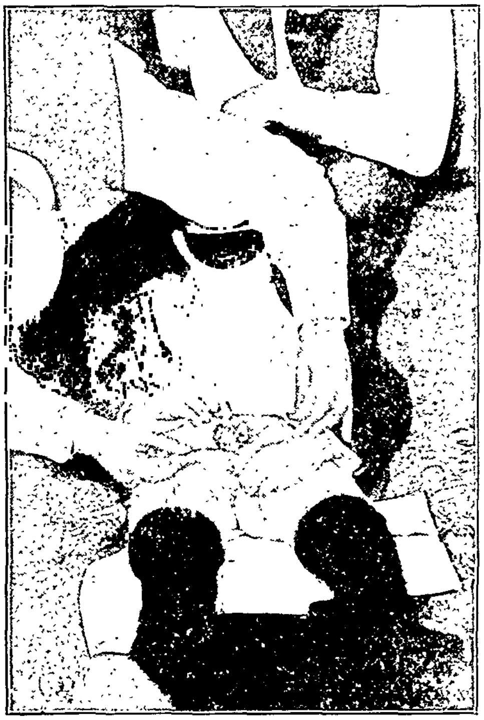


FIG. 1.

In view of these facts, the Sonnenberg method was chosen as the one most suitable for application in this particular case. The operation was made in February, 1899. It consisted in the detachment of the ureters from the extroverted bladder mucosa, and implantation of these into a groove made by a median sagittal incision on the dorsum of the dwarfed and clubbed epispadic penis. The raw and exquisitely sensitive bladder mucosa was cut away and the margin of the defect drawn snugly together and sutured about the two ureters as they coursed over the cartilaginous symphysis pubis.

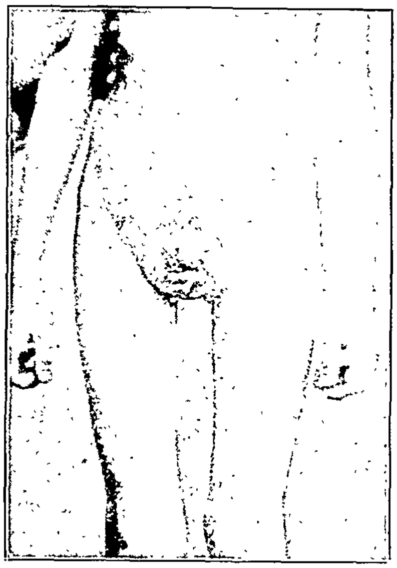


FIG. 2.

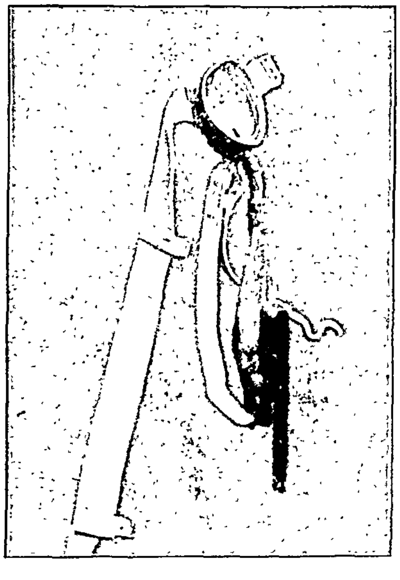


FIG. 3.

The left ureter refused to heal in its new position. It became so engorged with inorganic deposits as to become almost pipe-stem-like in consistence, and gangrene of the exposed portion of this ureter developed promptly. There seemed to be no alternative but to remove the left kidney, and this was done. The remaining kidney has since—one year has intervened—discharged the extra work imposed on it, without evidences of serious disorganization. Its condition at present is in no wise worse than before operation. The site of the extroverted bladder is now represented by a tough scar. Several futile attempts were made before the urinal shown in Figure 3 was finally constructed. As will be seen, it consists of a semispheroidal cup with a supplementary sacculation at its lower margin, extending slightly backward over the perineum. The margin of this cup fits accurately against the pubic and supra- and infra-pubic skin, and is made soft by a thin rubber rim. An ordinary rubber urinal is attached to the cup by a double rubber tube. A spiral wire is placed in this tube to prevent kinking. A valve is inserted in order that the urine may not be thrown back into the cup by compression of the rubber tank. This urinal neither leaks nor causes pain. No urine whatever escapes, while the patient is in the standing or sitting posture. In the dorsal recumbent posture there is no leakage, but when the patient lies on the side there is an escape of a few drops per hour. A small opening near the upper margin of the cup effectually prevents the passage of air through the valve into the rubber tank. The presence of this opening is very essential; for without it air, which finds its way into the cup under the rubber rim, would be forced through the valve into the rubber tank, thus encroaching on the latter's capacity for containing urine. It is not the writer's purpose to discourse on the respective merits of the various operative methods for the relief of exstrophy of the bladder, but he wishes it to be understood that the operation of Sonnenberg is not presented by him as a substitute for the Maydl operation of rectal implantation. It can not but be conceded that Maydl's method has its distinct indications. Given a case of bladder exstrophy with a robust general constitution and sound kidneys the method of rectal implantation must present itself for serious consideration as the only procedure by which the patient can be brought to a condition of passing comfort and happiness. Albert, Roux, Simon, Holmes, Lloyd, Boari, Allen, Herczel, Rudygier, Trombetti, Rosenotti and Frank have all made successful implantations into the flexure coli, and Krynski, Vignoni, Pisani, and Fowler have made rectal implantations, each by his own method. Maydl's record is undisputably good. The dangers of ascending pyelonephritis seem to have been distinctly reduced by his precautionary removal of the bladder wall flange containing the valve-like openings of the ureter into the cavum vesicæ, and the dreaded proctitis seems to develop only rarely.

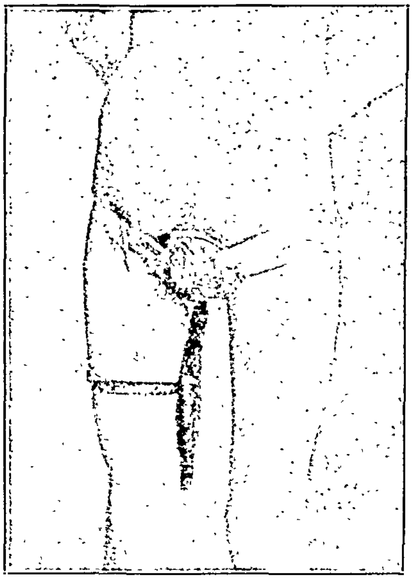


Fig. 4.

In cases of ectopia vesicæ, however, presenting unsound kidneys, Sonnenberg's operation in the light of present knowledge is certainly the one of choice. Its simplicity of execution is notable. It accomplishes all that can be accomplished by tedious flapping methods in much less time. The patient depicted enjoys very good general health. He attends school regularly and is apparently unhampered in play and work, by his deformity.

VISION AND COLOR PERCEPTION FOR RAILWAY SERVICE.*

BY WM. C. BANE, M.D.
OCULIST AND AURIST, C., R. I. & P. R'Y.
DENVER, COLO.

At the last meeting Dr. Pritchard favored the Academy with an article on the "Physical Examination of Railway Men," which included the test for vision and color perception. In the discussion that followed, many valuable points were brought out, and in considering the vision and color perception for railway service I must necessarily repeat some of the facts mentioned at that meeting. For efficient service it is essential that those who give and receive signals have normal vision and perfect color perception.

At the present time no uniform standard exists among the various roads that require applicants to pass an examination previous to entering their service. Their standard varies from a high to a low one. This is not as it should be, for there ought to be a uniformly high standard for physical examination, vision, and also some uniformity as to the colored yarns, flags and lights used. The vision for enginemen should be 20/20, or normal, with each eye, without the aid of glasses, and they should have normal refraction when entering the service. Those who serve as station agents, conductors, brakemen and switchmen should have vision of 20/20 with one and not less than 20/30 with the other eye, without glasses, and be free from hypermetropia of more than one diopter, on entering the service. Enginemen who have been in the employ of a company for five or more years and have proven themselves competent and trustworthy should be retained, everything being equal, if their vision with one eye is 20/20 and the other 20/40, without glasses.

It is a serious question as to what should be done with a trusted engineer, who has been in the service of a company for many years and become thoroughly familiar with his route, when his hyperopia becomes absolute and impairs his vision for distance. It does not seem just that such an employee should be laid off, when, with the aid of glasses, he is better qualified than a new man without them. Certainly the personal equation should be considered. In deciding on what shall be done with such an employee, the chief surgeon or oculist should have the right to grant some leeway and retain such a one, though he fall somewhat short of the standard properly established for new men. There are serious objections to allowing an engineer or fireman to wear glasses for distant vision. The lenses become dusty, and in cold or stormy weather the moisture will accumulate and blur the vision. Should the glasses become misplaced, the employee may for the time be disqualified for service. Some companies grant old employees the privilege of wearing glasses, while others refuse to permit their use. Without the permission to wear them we must say to the faithful employee: "Thou art weighed in the balances and found wanting." Glasses should be permitted for near vision, with which No. 2 Jaeger type can be read at fourteen inches.

Shall re-examination be required? Most certainly! As it has been clearly demonstrated that the eyes do change, they should be re-examined at regular intervals of from two to four years, and always after an attack of serious illness or accident. The difficulty regarding glasses, which would ultimately be required, is sufficient reason for considering the refraction as well as the acuteness of vision of each new applicant for railway service. As a precautionary measure the pupilary reflexes and fields for form should be tested.

---

*Read before the American Academy of Railway Surgeons, Omaha, Neb., Oct. 12-13, 1899.

Dr. Williams of Boston, in his contribution on "Form and Color-Vision in Railway Service,"[1] has so clearly presented the subject of color perception and the tests to be made use of, that I here quote a part of his article, which I most heartily endorse: "The standard examination for color-vision should include three things: 1, a test with colored signal-flags; 2, a test by comparison of colors by the Holmgren worsteds; 3, a test with colored lights seen through openings of regulated size, which will form small images on the central part of the retina.

"The acuteness of color-vision varies considerably from the normal standard, as does form-vision. We may have a feeble color-perception, an incomplete loss of color sense, generally for red and green, or a complete loss of perception for one or both of these colors, and in rare cases a complete loss of all color-perception, in which the solar spectrum looks like a grey smear of varying shade, but no color. The object of our test is to discover the extent and character of the defects, and whether they are sufficient in amount to disqualify according to the standards adopted. The test with flags shows whether the man can give correct names to the flags, and can tell their use and meaning. It is also desirable to use one of the flags at a time as a test-object, and get the applicant to pick out from the heap of Holmgren's worsteds all the colors that look like the flag. It will often be found that the correct names can be given to the different flags even when the test by worsteds and colored lights shows a considerable defect of color-sense, but when used as a comparison test a green may be selected among the other colors as looking like a red flag, or vice versa. The second test, by comparison of colors without naming them, selecting from a large number those which appear to the applicant like certain test-skeins, light green or pink, according to the method proposed by Professor Holmgren, is the most satisfactory and easily applied of all the good qualitative tests, but it does not give a sufficient test for small central scotomata.

"I have recently had a conductor who passed both the Holmgren and the Thompson tests without making a single mistake, and who selected his colors without hesitation, but when examined by colored lights transmitted through small openings, or even with switch-light lenses, before a lamp at twenty feet distance, he called a red light 'white' in four different cases; he had a central defect in the retina, probably caused by the use of tobacco in excess, yet the area affected was so small that the retinal image of the flag or the skein of worsted was formed partly on the diseased retina and partly on the healthy portion outside the scotoma, where the color could be easily recognized, but when the retinal image was reduced in size, as with the lights, it was formed entirely within the borders of the scotoma, and red lights were called white or sometimes green. It will not do, however, to substitute the tests with such lights for the Holmgren tests, as the lights give little chance for comparison or for the selection of confusion colors, and for ordinary cases of congenital color defect it would take a long and tedious examination to reach the same result that could be arrived at more quickly by the worsted test. On the other hand, the test with lights, with regulated openings, should be used in addition to the worsted test, as was first proposed in Holland."

The test with transmitted lights may be made at twenty feet, or six meters, through an opening 2 mm. in diameter; through such an opening a person with normal vision and color perception will at once recognize the color. Dr. Williams' instruments for testing with colored lights is so constructed that the standard colors can be exposed through openings of sufficient sizes. By such an instrument the examiner is enabled to test the form-color-sense and detect any defect that may exist in the central portion of the retina.

In reference to the test "with Holmgren's worsteds it is possible to make a distinction between some of the greater variations in color sense, for if a person is hesitating, picks up some confusion colors and compares them with the test skein, perhaps selects them and then discards them, or picks up some of the true colors, and after comparison rejects them, finally selecting none of the confusion colors, it shows that he has a feeble color perception; if he selects with the green some of the confusion colors, but with the pink or rose skein makes no mistake, it shows he has an incomplete defect; but if with the green skein he selects confusion colors in addition to the greens, and with the rose skein selects with the rose colors some blues or violets, it shows he has complete defect for red, or if with the rose skein he selects in addition to rose colors some greens or grays it shows he has complete defect for green."

"The tests for both form and color-vision should be made when the man is not fatigued by a long tour of duty or exposure, for it has been found that the acuteness of both form and color-perception is often diminished after two hours or more of engine work. After long runs and unusual exposure this temporary reduction in acuteness may be considerable, and it furnishes an additional argument for insisting on a high standing for such service. If one-half of normal vision were to be accepted as a minimum for each eye when the person was rested and in good health, the conditions of service might easily reduce this far below the danger point, but if a high standard is required the vision may be temporarily reduced by fatigue without becoming dangerous."

In conclusion, I would emphasize the following points: 1. The adoption by railway companies of a uniformly high standard of vision for men entering their service. 2. Uniformity of tests with colored flags, yarns and lights. 3. The re-examination of employees at regular intervals and after serious illness or accident.

DISCUSSION.

Dr. John F. Fulton, St. Paul, Minn.—It has been my privilege to have had quite an extensive experience in the line of work suggested by Dr. Bane's paper, and in order to make a success of the practical rules for examining candidates for train service as to their condition as to acuteness of sight, acuteness of hearing and color sense it is necessary to have the officials of the road in sympathy with and interested in the work of their oculist. When this subject is first brought to the attention of the railroad officials, they are disposed to look on the work as of little importance, and will give it but indifferent attention, but if you can succeed in obtaining their presence at a few examinations of candidates who are seriously defective, they will at once see the importance of the work and will then be disposed to make the examinations more severe than necessity demands.

For a number of years I have been doing this class of work for two of our Pacific Coast lines, emanating from St. Paul and Minneapolis, and have been consulting oculist for a number of other roads; consequently during the last ten years there has been examined, under my direction, a large number of men in train service, probably twenty-five or thirty thousand. Judging from my own experience in this work I am disposed to look on the requirements as suggested by Dr. Bane as somewhat severe. If a man has vision of 20/20 in one eye and 20/40 in the other, I would have no hesitation in passing him, certainly if the slight defect in sight is due to a refractive error which can be completely or partially overcome by proper correction.

---

[1] Trans. Am. Oph. Soc., vol. viii, part 1.

How often should each employee in train service be examined? This is a question well worth our careful attention. My own rule on the subject is as follows: All new candidates for train service should be examined before being employed, and re-examined whenever promotion takes place, or whenever they are transferred from one division to another, and all employees in train service should be examined every three years.

In regard to the examination for color sense, I do not know anything that requires more careful and conscientious work on the part of the oculist than those patients who at first hesitate as to matching of colors, it being often difficult to decide whether or not they are really color-blind, or "color ignorant" or " color stupid." It will be frequently found that such men, after repeated examinations, will demonstrate that their color sense is perfect and that they are perfectly safe men to be employed in train service.

The laity and many of the general practitioners look on color-blindness as a congenital and incurable defect. This is by no means always the case. Defects in color sense are frequently due to the excessive use of stimulants, such as tobacco and alcohol, and in the early stages thus acquired the trouble is completely curable by removing the cause; hence the importance of making frequent examinations.

What shall we do with old and trustworthy employees in train service, who have lost one eye while in the employ of the company and have perfect sight in the remaining one? We will all admit that it is not perfectly safe to retain such men, yet it seems like a great hardship to dismiss them on account of an accident which has occurred, while they are rendering faithful service to their employers. This is a matter more for the officials of the road to deal with than for the company's oculist. One of the most serious accidents with which I am familiar was unquestionably due to the defects of a one-eyed engineer. As you know, in all one-eyed men the range of the field of vision is not as large as with both eyes, and in the case alluded to there was an obstruction on the track on a sharp curve, which he failed to see, resulting in a most serious accident, costing a number of passengers their lives and causing the destruction of a large amount of property.

Equally as important as the testing of the eye-sight in railroad employees is testing the acuteness of hearing. General surgeons and inexperienced oculists who first begin the work are apt to depend too much on the tick of the watch as a test, but experience will soon teach them that it should only be utilized when making the preliminary examination. If at this examination the candidate can not hear the watch tick beyond six inches, he should be referred to an experienced aurist, and if he finds no progressive disease of the ears, and that the candidate's acuteness of hearing is normal for whispered and spoken speech, he should have no hesitation whatever in passing him for train service. I am familiar with the requirements of one road in this department where the surgeon required that the watch should always be heard at eighteen inches. It happens to be a small road, so fortunately no great harm was done. Should this rule be enforced on a large one, where they employ seven or eight thousand men in train service, it would mean the dismissal of from five to eight hundred of their best ones. In cases where we are in doubt as to the progressive nature of the trouble, a certificate should be given, limited for one year.

The work of the oculist for the railroad company should be divorced as much as possible from the work of the chief surgeon, because it will always happen that, if the chief surgeon attempts to interfere with the oculist in his work, he will so cripple him that he will not be able to get results satisfactory to the candidates, to the road or to himself. I have been particularly fortunate in my own association with the chief surgeons of the different roads for which I work, as they have not shown any disposition to interfere but, on the other hand, have given their best assistance to make the work a perfect success.

Dr. J. T. Eskridge, Denver, Colo.—I would raise a medicolegal question in this connection. I think the chief surgeons and managers of railroads are the responsible parties in this matter. This question suggests itself: When a man is re-examined and color perception is less than that of other employees newly accepted, what responsibility would the railroad have to bear if a person should be injured because of the defective vision of an old employee. It seems to me that if it were shown that the old employee did not have perception sufficient to prevent an accident from occurring, the railroad would be responsible, and the chief surgeon, who is mainly concerned in their cases, should co-operate with the oculist and inform the managers of the road when the vision of the old employee is becoming defective.

Dr. T. B. Lacey, Council Bluffs, Iowa—There was one feature brought out by Dr. Bane, in his paper, which is worthy of further discussion, viz.: that in the examination of applicants for positions, or old applicants, we ought to have their records as to their condition when they are examined. He referred to the fact that a man in doing certain work has deterioration of vision due to the energy he has expended, and there is considerable truth in that. I have examined railroad employees who have been instructed to come to me for that purpose, and when they came they were in no condition to pass the proper examination, because they had been overworked. These men had not received any treatment. They had not received the consideration that they ought to receive, and still there are times when I do not know how that is avoidable, because they do not feel disposed to lay off from a trip or from their work a day or two to get thoroughly rested; but still, in a great many cases the evident weakness of vision or defect in color perception is largely due to overstrain or overwork, and they are not in proper condition to undergo a satisfactory examination. We all meet with cases of defective color perception in employees to be examined or re-examined, but much of it is due not so much to direct weakness as it is to absolute ignorance of what colors are; I have had applicants come to my office, off and on, and have asked them the color of a certain skein, and they will determine the color correctly at once, and then when they are asked to match or take all the skeins that contain that color, they will immediately go to work and try to match it with another shade. It is a difficult matter to so word our instructions to men who are wanting employment, that they will distinctly understand what we want them to do. If you give them the standard for the simplest green skein, and tell them you want the skeins that contain the green color, they will immediately pick out the shades which most nearly match the sample; you want the dark as well as the light. While a great many employees whom we examine develop a weak color perception, a good many others are simply color ignorant."

Dr. John E. Owens, Chicago—I have been engaged in examining applicants for railroad service for a long time, and I still find some problems very difficult to solve satisfactorily. Not long since, I left Chicago at 6:30 in the evening, and returned the next morning at 8:30, having traveled 794 miles and remained 3½ hours in the town I visited. I say this to emphasize the importance of having men on our trains with normal color vision, on account of the great rapidity with which our trains run at the end of the nineteenth century. A mile a minute is common on many of our first-class railroads, not for the whole distance, but for many miles, and there has been such an advancement made in speed of trains, in equipment, in coaches, in trucks, and everything that pertains to the running of a train, that we certainly are beginning to see more and more the necessity of having men with normal physical endowments, normal functions, and particularly normal color sense to act as engineers. We have had a uniform system for some years on the Illinois Central, and the same system is in operation on the Northwestern. We go much further than examinations for visual defects and hearing. Physical aberrations which impair usefulness, which lengthen the time of disability or which lessen the powers of endurance of the physical strain during the running of fast trains are considered. I find a problem something like this to deal with: A new man reports for examination. He makes the characteristic mistakes of the color-blind and is rejected. He comes again for re-examination, and is again rejected, and even a third time. I have been inclined to be liberal with the men in examining them several times, seven or eight days apart, to show them that I am disposed to do everything for them that is reasonable and right. A man with defective color sense will pick up the wrong skeins or point out the wrong colors. Others, after repeated examination and more or less outside practice, can key themselves up to pulling through, and the question arises: are we justified, under the circumstances, in passing them, or should they be rejected as the result of original characteristic errors? The latter is the course to be adopted.

When I first began to make examinations of employees on the Illinois Central, the Holmgren worsteds were used, and I was instructed by the general superintendent, as this was a new matter, to go over the road again and re-examine them. With assistance I accomplished it and examined the employees with flags and lanterns. I was a little timid about that part of it. I had every confidence in the Holmgren test for the detection of color sense, but I did not know what the men would do with flags and lanterns. I thought the Holmgren test would catch all, but I feared the other tests might let some slip through. We used flags in the day time and lanterns at night, and I was very much surprised to note the numerous mistakes *that were made in naming the flags and lantern colors* amongst those who had previously been found defective by the worsteds. The late Dr. Robert Tilley devised a little instrument which he used on a patient who was referred to an oculist, where he had examined the man and found him defective. This instrument was intended to bring out the personal equation in connection with such examinations. We did not bring it out to perfection. It was a domestic affair, but it corroborated the results of our previous examinations of certain men who were found defective in color sense.

Dr. A. I. **Bouffleur**, Chicago—The old statement that "a chain is no stronger than its weakest link" should be applied in examining men when tired. If a man is color-blind or color defective when he is tired, just after he has quit work, is he a safe man in a responsible position ten minutes before he has quit work? If we are to have perfect men on our railroads, it is best to test them when they are tired. I have to examine railroad employees in Chicago who run their trains by signals from the time they go out until they go off duty, and it is very essential that those men should be perfect in color sense at the close of their day's work, as it is at the commencement of it. I therefore take exception to that part of the Doctor's paper.

Dr. J. T. **Eskridge**, Denver, Colo.—I showed, in my paper, that hysteric subjects and neurasthenics commonly have limited fields of vision. I know not why it is, but in Colorado, particularly among railroad employees, neurasthenia is exceedingly common. I have examined eight or ten neurasthenics from the D. & R. G. Railroad this year, in whom the fields of vision were at first narrowed. It is evident that such men would not make good signal-men. I would like to ask the Fellows of the Academy if they have made any distinction in examining the eyes of railway employees, whether the patients were either "run down," neurasthenic, or hysteric? Those with manifestations of hysteria showed a decidedly contracted visual field.

Dr. W. C. **Bane**, closing the discussion—As to the point brought out by Dr. Fulton, I agree with him that a man with one eye is disqualified for engine service, and unsafe for signal service. An old employee should be given other work.

As to the question raised by Dr. Eskridge in regard to neurasthenia and hysteria, I can only answer that in physical examination, the Rock Island surgeons include diseases of the Spine. The fields of vision are taken in the eye examinations.

The point with reference to men being tired at the time of examination should be carefully considered. A man at the end of his day's work ought to be able to recognize colors and see the signals quickly enough to protect himself and the passengers. The man who does not recognize colors promptly should not be employed for service where it is necessary to give and receive signals. Such men should be rejected.

I rode with an engineer on the Rock Island for a short distance in coming east, there being an electric headlight on the engine. He stated that for white and red the electric light was far superior to the ordinary light used on the engine, but he thought it was no improvement for green. I was impressed with the thought that the green lights as used on the railroads are not large enough.

THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.*

BY EDWARD F. WELLS, M.D.

CHICAGO.

The history of pulmonary tuberculosis during the last quarter of the century now drawing to a close may be considered by the physician and humanitarian with a fair degree of complacency. The essential cause of the disease has been discovered; the avenues of infection have been located; promising methods of prevention have been formulated. The physician and the health officer are enthusiastic and alert to their duties and responsibilities, and they are guiding a public fairly intelligent and ready to accept the proffered advice; the malady is being discovered earlier, is probably being more effectively managed, and is declining in prevalence.

If one will but re-read the chapters on the diagnosis of pulmonary consumption, by Laennec, Louis, Andral, Copland, Watson, Eberle, Drake, Gerhard, Trousseau, Flint and Waldenburg—master minds of their day and certainly *au fait* with the literature and diagnostics of their generation—and compare them with the like chapters of Eichhorst, Osler, Anders, Kidd, Cornet and others of to-day, he can not fail to be profoundly impressed by the immense strides which have been made in the possibilities of the early diagnosis of this disease. This, however, only corresponds to my own observation and experience, and I know that appeal can safely be made to those of my hearers of my own age, or who are older, to confirm the statement that the early diagnoses of pulmonary tuberculosis which are now made as a routine, and which are demanded by the spirit of the times, were utterly unknown and unattainable a quarter of a century ago.

It may be admitted by many, and I will state as a proposition which I believe can not be successfully contradicted, that it is not only possible, but practicable as a matter of routine, to make very early diagnoses in cases of pulmonary tuberculosis. In making this statement I do not underestimate the difficulties, but I do feel confidence in the means at our command, and in the skill of medical men generally in their employment, for meeting and surmounting these obstacles. I am quite sure that diagnostic failures are not due to any inherent difficulties. On the contrary, they are usually due to remediable shortcomings on the part of the physician, as, for example, to a hazy conception of the clinical picture of early tuberculosis of the lungs; to obtaining an incomplete history of the case; to superficial physical examinations or to lack of facility in manipulation or interpretation in this field; and, finally, to a peculiar mental bias which renders him loath to acknowledge the presence of that which he dislikes to discover.

The practical importance of the earliest possible diagnosis of pulmonary tuberculosis can scarcely be overestimated—certainly it is patent to every physician. To the patient it means that he is the victim of a malady which will entail upon him, at the best, many months or years of invalidism, with, probably, radical modifications of business and domestic arrangements, together with a certainty of prolonged incapacity, and death in a majority of cases. On the other hand, complete recovery ensues in a very considerable proportion of cases—probably in from 25 to 35 per cent.—and a fairly comfortable existence may be had in another large contingent of cases which ultimately prove fatal. That the cure of the disease and extension of the life of the patient is largely dependent on the early institution of rational treatment, which presupposes early diagnosis, no one will have the temerity to deny.

---

*Read before the Chicago Society of Internal Medicine, Dec. 28, 1899.

To treat exhaustively of the early diagnosis of pulmonary tuberculosis would require a volume. It is clear, therefore, that within the limits of a short paper only a few of the more important points can be considered, even cursorily. It will be my aim, however, to select for comment those which are most apposite, most novel, and which are oftenest neglected.

Without argument it will be taken for granted that pulmonary tuberculosis is due to the lodgment and subsequent growth in the lungs of the bacillus tuberculosis; that the avenue of infection is usually through the inspiration of air which has been contaminated with the dried and pulverized sputa of consumptives; that the germs vary in virility and are inherently short-lived, especially in the light; that in countries where the malady is prevalent all persons are constantly exposed to the germs of the disease, and that some persons are infected because the inspired bacilli meet with present accidental conditions conducive to their growth and inherent or acquired slight powers of resistance, while the majority of persons escape because the germ encounters unfavorable local conditions and ample systemic defensive resources.

In the diagnosis of early and obscure cases it may be necessary to carefully weigh every circumstance which might possibly have any bearing on the probability, or improbability, of the presence of the disease in question. In such cases heredity and environment may be factors of the greatest importance. There can be no reasonable doubt that tubercular persons transmit to their descendants a peculiar and more or less profound susceptibility to the disease, as is proven by the persistency with which it clings, generation after generation, to those families in which it has once obtained a firm foothold. Known, and especially prolonged and extraordinary, exposure to the germs of the disease, or the absence of such exposure, must also be estimated at its true value in forming a diagnostic opinion. It will be readily understood that the chances of an obscure affection, presenting some of the features, but lacking in positive evidence of pulmonary tuberculosis, being in fact this disease are greatly increased in those who have family histories bristling with instances of the presence of this malady, or in those who are closely associated with consumptives who are careless in their habits. In this connection I can not too strongly urge upon family physicians the necessity of carefully examining such persons at regular, and not too infrequent, intervals. Pulmonary tuberculosis is more prevalent in some races, localities, and in connection with some occupations, etc., than in others. For these reasons heredity, susceptibility, immunity, environment, exposure, climate, occupation, residence, etc., should all be given due consideration in summing up the evidence in any given case.

Of special importance in the diagnosis of early pulmonary tuberculosis is a comprehensive and detailed medical history of the case, although the obtaining of this is often a most difficult professional feat. Patients have no desire to withhold needed information or to make wilful misstatements, yet some of the most suggestive of the early symptoms they may consider insignificant and unworthy of mention, or they may not have noticed them. However, careful and methodical questioning, especially in the presence of an observing associate, will, ordinarily, elicit a fairly clear, and it may be a graphic, description of the early symptoms of the disease. Upon this feature I lay particular stress, inasmuch as long observation in a field of practice peculiarly suited for obtaining exact information has convinced me that, ordinarily, the access of pulmonary tuberculosis is marked by great uniformity of symptomatology.

I can not recognize a "pretubercular stage" of the disease. I do not lose sight of the fact that the disease is often preceded by anemia, gastric and intestinal disorders, etc., but the existence of such conditions, although they may invite infection, are purely accidental and are not necessarily premonitory. The beginning of the attack must be coincident with the implantation and parasitic development of the bacillus of tuberculosis.

The symptomatic development of pulmonary tuberculosis in a typical case may be briefly outlined as follows: There is a slight and unobtrusive cough which insidiously increases in force and frequency; after a few weeks there appears a scanty mucous expectoration, later, becoming mucopurulent and more abundant; there may be hoarseness, hemoptysis and thoracic soreness; there is slight or moderate afternoon fever, which is accentuated by exercise; the pulse is increased in frequency and arterial tension is diminished; the appetite is lessened, nutrition fails and there is loss of weight, strength and endurance. About once in from four to six weeks there is an exacerbation in which all these symptoms are accentuated and some new ones are added: The cough is increased in frequency, is dry and is often accompanied by thoracic soreness or pain; the fever rises higher in the evening and is usually also present in the morning; the head aches, and there are general aching pains; the appetite is poor and the bowels are constipated; weight is rapidly lost and there is marked weakness; the patient is restless, irritable and out of sorts generally. After about a week freer expectoration occurs; the skin becomes moist; the appetite returns and the bowels move naturally; the soreness and aching cease and the patient feels better. These exacerbations recur at intervals of from four to six weeks, each succeeding one becoming more pronounced, and their diagnostic value can not be readily overestimated.

Let us now consider some of these symptoms more fully:

Cough is probably the earliest symptom. It has, moreover, peculiar characteristics. It is slight, unobtrusive, hacking and often consists of a single effort. It may be excited by change of posture, deep breathing, etc., but if the movement or forced inspiration be repeated the cough may not be reproduced. Usually it is infrequent and may not be heard a half dozen times a day, and may be unnoticed by the patient and his associates. Later, and especially during the morbid exacerbations, it increases in frequency and severity, is provoked by changes of posture, sudden exertion, deep breathing, etc., and each repetition of the provocative act is followed by cough. Later it may assume a paroxysmal character and may be accompanied by vomiting. Cough, as above described, and gradually assuming more and more prominence as time passes, is highly suggestive of pulmonary tuberculosis. If hoarseness is also present the chances that the affection is of any other nature are very slight indeed.

Expectoration may be scanty and for a time free from the specific germ and the evidences of ulcerative action. However, if search is made for bacilli and elastic fibers immediately after one of the febrile exacerbations referred to it will usually be rewarded by the discovery of these, practically, indubitable evidences of the disease in question. Boiling the sputum, just long enough, with a caustic alkali, and centrifuging it, increases the chance of finding the bacilli and fibers if sparingly present.

Hemoptysis occurs in only a moderate proportion of the cases of early pulmonary tuberculosis, but it is very significant when it does appear and is a symptom of prime importance. It is usually small, or moderate, and solitary or mildly persistent for several hours, or recurrent. Although a period of cough and one or more febrile attacks will almost certainly have preceded the hemoptysis, yet the spitting of blood is often the first symptom to excite the alarm of the patient and his friends.

Thoracic tenderness, soreness and pain are rarely absent in early—not the earliest—pulmonary tuberculosis. Their favorite location is in the upper part of the chest, in front, although they may be seated in the axilla or back, or even at the base. Their location and character are often indefinite, but this indefiniteness is in itself a suspicious circumstance.

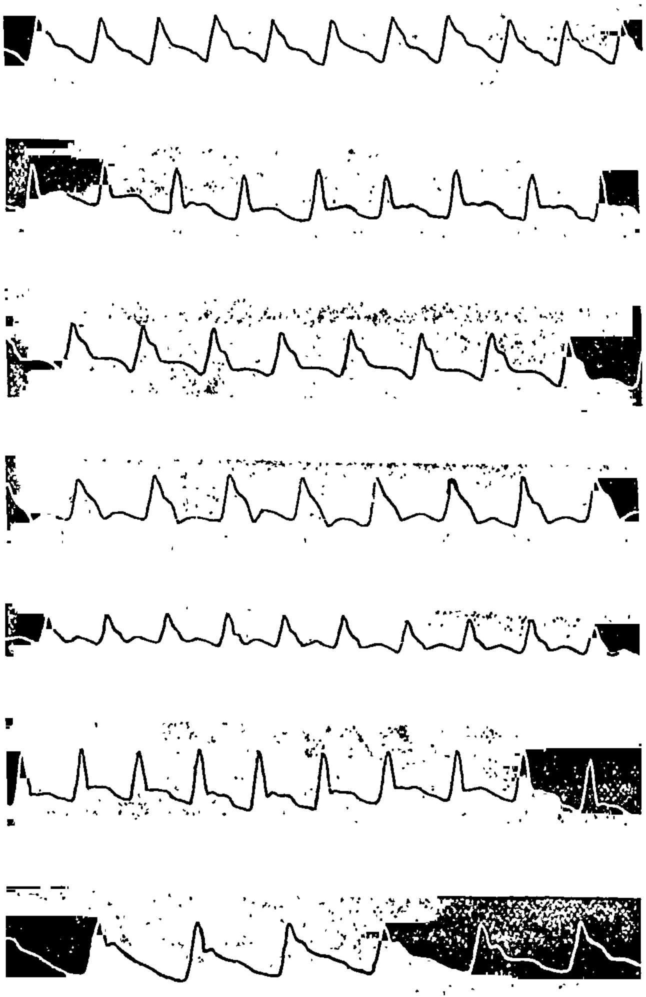
The *fever* curve of early pulmonary tuberculosis is highly diagnostic, and frequent, methodical thermometric observations for several days will clear up many a doubtful case. The temperature in the morning may be normal, subnormal or very slightly elevated. In the afternoon it may range between 100 and 103 F., the highest temperature occurring in the late afternoon rather than in the evening. An important fact is that exertion promptly and decidedly increases the temperature. During the febrile exacerbations the range of temperature is greater, and the type of fever is remittent rather than intermittent. Some other affections, e.g., anemia, obscure suppurations, etc., may be accompanied by evening elevation of temperature, but these are usually readily differentiated.

Gastric symptoms are frequently present. The appetite is somewhat impaired and may be erratic, while in infrequent cases there is a veritable dyspepsia. In rare cases there are no gastric disturbances. During the febrile exacerbations the appetite fails, the tongue becomes coated, the bowels are confined and there may be nausea and vomiting. So marked are these symptoms that these exacerbations are often considered "bilious attacks," with failure in recognizing their true nature.

Nutrition is impaired, and weight, strength and endurance are early diminished, especially during the febrile attacks, each exacerbation leaving the patient on a slightly lower plane. The patient may have the appearance of health, but an appeal to the scales will show a loss of weight and it will be found that feats of strength and endurance which could be formerly accomplished with ease can not be duplicated, or are only possible with difficulty and added exertion. The patient tires easily and unaccountably, and this symptom usually early attracts his notice.

The *blood* is early altered in composition. The number of red blood-corpuscles is diminished, as is also the specific gravity and hemoglobin. It is contaminated by the presence of tubercular toxins and, perhaps, antitoxins, and by an excess of waste products. There are probably morphologic changes in the erythrocytes and leucocytes.

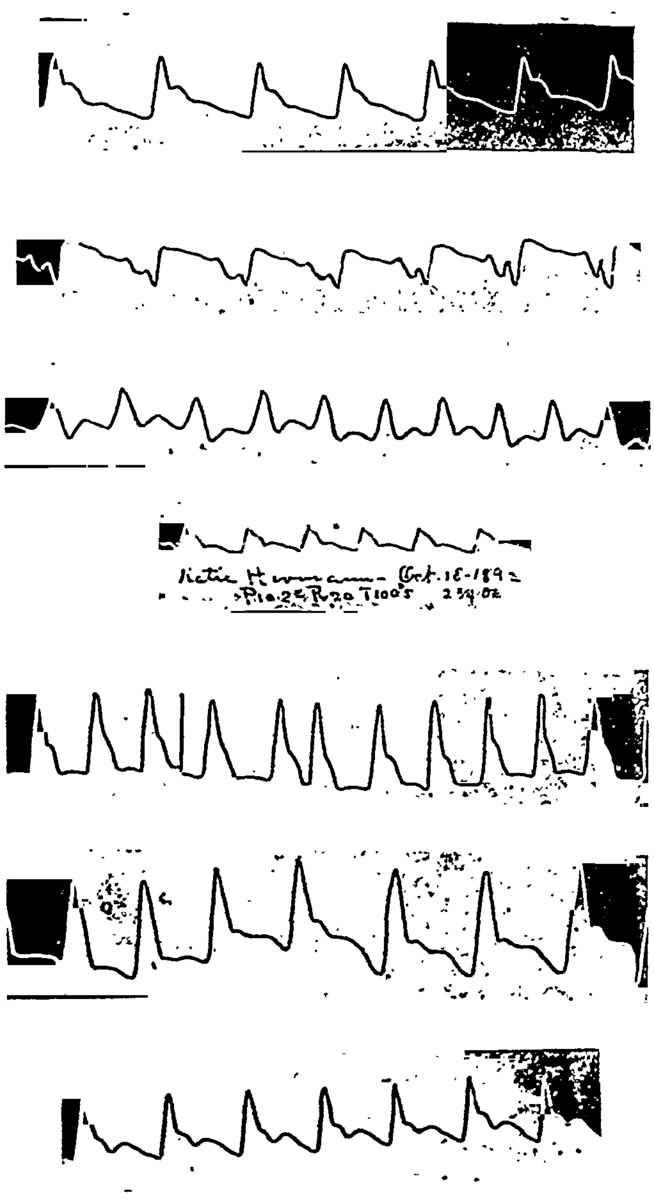
The *pulse* is early and decidedly modified in its character. It is usually accelerated, and the rate is changed but little by position. This latter feature is very suggestive, and whenever the pulse-rate is found increased and practically the same whether the patient is lying, sitting or standing, the most careful scrutiny is demanded. The acceleration is usually moderate, but in rare instances it may be very great. The arterial tension is early and notably reduced, especially during the febrile exacerbations. To this, in my experience, I have met with no exception. Normal or an increased tension may be present when the disease attacks persons with arteriosclerosis, but I have had no opportunities for studying such cases.



Sphygmographic tracings give most valuable aid in the diagnosis of early pulmonary tuberculosis, and from these alone the scale may be turned in the great majority of doubtful cases. Typically the tracings show a pulse of lowered tension and infantile character—a small and frequent pulse. From this typical curve there are infinite variations in both directions, approaching the normal on the one hand and reaching the most pronounced dicrotism on the other. Words can convey no adequate conception of these changes, and I can only append a number of examples, with the assurance that you will be convinced that we have in the early stages of this affection a distinctive and readily recognizable pulse.

To some I may have been somewhat tedious in my preceding remarks. I can only offer, in apology, my conviction that those points are of primary importance and that they must be fully appreciated and recognized when we come to interrogate the chest by the aid of the percussor and the stethoscope. The importance of a most painstaking physical examination of the chest needs no extended mention. However, those who have had the greatest experience well know that, at the stage of the disease to which my remarks refer, physical signs are often in abeyance or are capable of various interpretations. Localized râles may mean much or little, as they may be heard in a patient with or without the symptoms detailed. It must also be borne in mind that in some cases the progress of the pulmonary affection is slow; and that in these cases symptoms may antedate by several months the appearance of demonstrable signs.

Percussion may elicit diminished resonance or dulness in some early cases which are rapidly progressive, but as a rule this will not be found in the doubtful cases. Stethoscopic percussion may be an aid. I have thought that during the febrile exacerbations areas of dulness could be detected which did not exist before nor persist after, but on this point my conclusions are indefinite. I am sure, however, that areas of pre-existing dulness are enlarged at these times. It must be borne in mind that, whereas distinct interscapular, supra- or infraclavicular dulness is highly suggestive of tubercular consolidation of the lung, the converse does not hold good, as tubercular formation may be present without any impairment of the percussion note.



In *auscultation* it is scarcely possible to overestimate the diagnostic importance of localized crepitation, moist râles, and prolonged, high-pitched expiration, heard, especially between the scapula and the spine, at the apex, or below the clavicle. Fine crepitation and coarse râles may be heard more distinctly, or only on deep inspiration, or with, or after, coughing. All the auscultatory signs are more noticeable during or shortly after a febrile exacerbation. Moist râles are rendered more prominent, or they may be heard only after an iodid has been given in moderate doses for a few days. The iodid causes a flow of serum from the bronchial mucous membranes, and this serum is not readily extruded from consolidated areas. Under these circumstances coughing, deep breathing, or even ordinary respiration will produce râles in these areas. It does not aid in the diagnosis of cases which have not progressed to the stage of some consolidation, except that it may favor the expectoration of bacilli bearing sputum. Some observations upon the use of iodid of potassium in the early diagnosis and the locating of the local lesion in pulmonary tuberculosis I brought to notice a year ago. Since my report I have employed it in every suitable case which has presented itself, and I can only reaffirm what I then said, namely, that in iodid of potassium we have a valuable diagnostic agent.

The *tuberculin test* may be employed in those cases, not syphilitic nor chlorotic, in which the diagnosis can not be made by ordinary means and in which a moderate delay can not be had. Although a valuable diagnostic agent its use is attended with a slight risk and, therefore, tuberculin should be administered only in such manner as to furnish profitable information. The temperature should be normal or have a very low febrile range and thermometric observations should be made and recorded every three hours for several days before the tuberculin is injected. The dose should be a moderate one, say from three to five milligrams, and it should be given in the evening in order that the reaction may begin in the morning. A positive reaction may be considered to have taken place if the malaise, headache, backache and pains in the legs have been marked and the temperature decidedly elevated. The reaction ususually begins in about twelve hours and continues for from thirty-six to forty-eight hours. If no reaction follows the injection a larger dose, but not exceeding one centigram, should be given after the lapse of several days. In the tuberculin test a negative result is of great importance, because, if the observations have been carefully made, we may affirm that not only is the suspected pulmonary affection not tubercular but that there are no latent pulmonary foci and that tuberculosis does not exist in other parts of the body.

In a doubtful case the X-ray may tip the balance for or against the probability of tuberculosis being present. This is especially true when thoracic soreness or pain is present, the X-ray revealing restricted movement of the diaphragm upon the affected side.

In conclusion, I will say: Satisfactory diagnoses in cases of early pulmonary tuberculosis can be made only on a broad base of practical knowledge. It must be apparent that it is impossible to compress in a short address that which many volumes can not contain. It is believed, however, that sufficient has been presented to lead to the conclusion that the early diagnosis of the affection under consideration presents no insurmountable difficulties, and that the application of a reasonable amount of care and skill, and in a few cases allowing the lapse of a little time, will almost invariably lead to correct results. In attaining these ends no portion of our experience concerning pulmonary tuberculosis can be neglected, but particular attention should be given the points mentioned.

4571 Lake Avenue.

THE SIGHT AND HEARING OF SCHOOL CHILDREN.*

BY H. V. WURDEMANN, M.D.
Ophthalmic and Aural Surgeon to the Milwaukee Children's Hospital and to the Milwaukee County Hospital for the Chronic Insane; Managing Editor, Annals of Ophthalmology; Associate Editor, Ophthalmic Record; Chairman, Section on Ophthalmology, American Medical Association, 1900, etc.
MILWAUKEE, WIS.
WITH THE COLLABORATION OF
FRANK ALLPORT, M.D.
Professor of Ophthalmology, Chicago Policlinic; Professor of Ophthalmology and Otology, Northwestern Woman's Medical College; Oculist and Aurist to St. Luke's Hospital, Consulting Oculist and Aurist to St. Joseph's Hospital.
CHICAGO.

I have been requested by the superintendent of the Milwaukee schools to say something concerning methods for the systematic examination of school children's vision and hearing, which have been instituted in a number of the large cities of America, and have been taken up in this city under the authority of the commissioner of public health.

The enlightenment of the young may be likened to the raising of agricultural products. Not only are proper seeds necessary, but favorable soil and conditions are quite as needful. The means of education: the buildings, properly placed, constructed and conducted, including teachers, systems, books, etc., have been fully developed in our day. The child's mind should be active and its body and senses healthy to render it capable of profiting by instruction. Modern schools, with their effective machinery, are a source of gratification and delight to all; but enthusiastic, progressive and systematic educators do not always consider the soil on which the seed of enlightenment falls; in other words they are disposed to consider children as a massed entity, do not separate them into isolated individuals, with distinct inheritances, and mental and physical peculiarities, rendering them more or less adaptable to the requirements of the modern public school. Children are thrown into the great machinery of school life, are divided into grades, are expected to adhere to them and become educated according to this system. A child may have a weak or crooked back, which will become aggravated by close confinement at improperly constructed desks; he may have lungs handicapped with the incipient germs of consumption, encouraged by the protracted inhalation of vitiated school air; he may languish from an impoverished condition of the blood, and pine and droop under too much study and too little fresh air.

These are some of the conditions noticed in school children, militating against the easy acquirement of an education; but more directly detrimental is the existence of certain abnormal conditions of the organs of special sense, of *seeing* and *hearing*, which are certainly of prime importance in acquiring an education. If a child can not see well and hear well his position is certainly most unfortunate in the modern public school, where he is expected to keep up with his grade work, or else subject himself to chagrin and mortification. Do not understand me as saying that your schools are to be likened to the car of Juggernaut, that ruthlessly throws down and crushes all who unfortunately come in contact with its destroying wheels. Far from it. I fully appreciate the gentle, humane and sympathetic feelings that proceed from the hearts of most teachers toward the children committed to their care. I am not unaware of their watchfulness and solicitude over their little flock, that prompts them to change the seats of the deaf and nearsighted, to make allowances for any noticeable physical or mental short-comings, to frequently visit parents and urge on them the necessity of action concerning the health of a child; but these are isolated though frequent instances, inspired by individual sympathy and character.

What we want is a paternal school system of health investigation, by which the physical defects of children will be made manifest and steps taken to protect pupils against themselves and in many instances against their parents. We also want a system that, after these unfortunate conditions have been discovered, will not only allow, but insist on, the harmonizing of the studies to the child, and not the child to the studies. I am not unaware of how often this is done; that the doctor's certificate of poor health is usually respected; that the course of study is sometimes changed under the advice of parents or teacher. I think I am not wrong in saying that these changes are so frequent, and so little encouraged, that children will often endure much physical discomfort or even suffering, rather than assume the mortification brought on them by the distinction of a grade change. These changes should be inspired from the intelligent illumination of regular physical examinations, and should be so common as to excite no comment, and give rise to no loss of a pupil's self-respect, or disappointment on the part of the parent, who frequently allows a child to languish and acquire permanent invalidism, rather than interfere with his class standing, or the date of a projected graduation.

I would not be misunderstood as advocating the abolition of systems and grades. It is needless to say that schools can not be properly conducted on other principles. Neither do I advocate the indiscriminate changing of children in grades, without just and adequate consideration. Neither do I ignore the fact that pupils are frequently changed to other grades for ostensibly good and sufficient reasons. I advocate more system and more grades. I advocate a system of physical examination in schools, by which we may know the condition of a child's health, and not trust chance or circumstances to detect it, and I advocate more and shifting grades, commensurate with the physical condition of defective children. In other words, I do not believe in the wholesale education of the rising generation, which is our country's hope, its bulwark and defense, and whose physical and mental condition is a sacred trust which we must guard and cherish. I do not believe in thrusting these little, yielding, impressionable, often sickly, lives into the common crucible, to be moulded and turned out with identical exactitude and precision. I believe that children should not be damaged by their educational existence, but should emerge from the portals of the Amer-

---

*An Address delivered before the Principals of the Milwaukee Public Schools, Jan. 12, 1900.

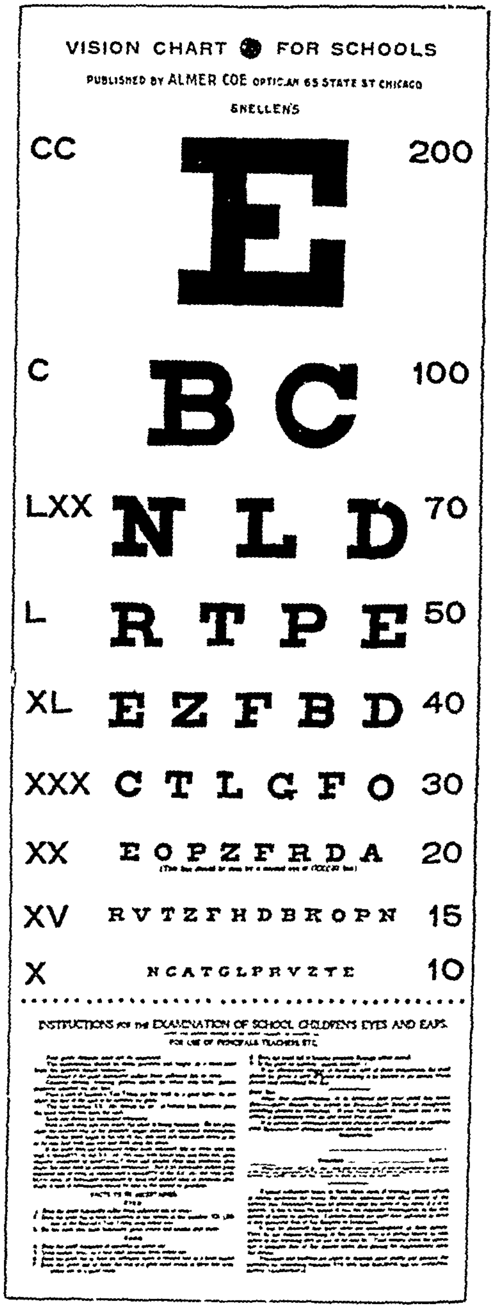
ican public school in better physical, mental and, may I say, moral condition than when they were entrusted to its fostering care, and that steps should be taken calculated to bring about the fulfilment of this imperative duty.

We must creep before we walk, and a great reform of this kind can not be accomplished without primitive and pioneer work. The eye is the most important physical element in the acquirement of an education, unless it be the brain, and is fortunately an organ capable of ready examination. The testing of school children's eyes has been *systematically performed for many years in Europe*, and especially in Germany—that factory of bad eyes—and, since 1895, somewhat in this country, but these examinations have been made by oculists appointed by school authorities, who have personally—with their assistants—examined every child in a given community. This system operated very well in monarchical Europe, accustomed to arbitrary domination, but in America, habituated to democratic rule and individual freeedom, the method has given rise to much opposition from parents, children, school authorities and other oculists wherever tried. In fact, the method has been forcibly discontinued, as an element of too much discord and professional strife. Teachers have, sometimes, in a spirit of righteous investigation, made abortive attempts at testing their school children's eyes in various more or less scientific fashions, being forced by intelligent observation to a realization of the truth that many children were struggling under an ocular burden, very heavy to carry.

A systematic method for the examination of pupils' eyes by teachers, comprising simple questions and instructions which, if properly carried out, will detect the existence of most important ocular diseases, has been in use in Minneapolis and St. Paul; Worcester, Mass.; Sycamore, Ill.; Philadelphia and Chicago, for several years, and is being introduced in San Francisco and other cities.

Statistics show the average frequency of defective eyes in American school children to range from 25 to 35 per cent. When it is remembered that the vast majority of these have never sought ophthalmic advice, and are *therefore endeavoring to acquire an education under* exceedingly disadvantageous circumstances, the importance of this subject can be imagined. Time forbids me to enter into any description of the ocular diseases and conditions chiefly incidental to school life, but you doubtless know that nearsightedness or myopia is quite frequently a development caused by excessive study under poor conditions; that hyperopia and astigmatism are malformations of the eyeball, rendering study exceedingly irksome, because of tired eyes and head and headache; that a cataract is an opacity of the crystalline lens, and may exist and partly blind a child, without recognition, except by skilful examination; that optic nerve, choroidal and retinal inflammations may occur without especially noticeable symptoms to an observant child; that many varieties of "sore eyes" may hinder even reasonable school diligence; in short, that many morbid ocular conditions may obtain without attracting especial attention, and render the acquirement of an education exceedingly burdensome to children who thereby acquire the reputation of being dull, stupid and idle, but whose unenviable record may be completely revolutionized by proper ocular treatment and advice. The same may be said of aural diseases or conditions attended by deafness.

These are the children we hope to reach by these school tests, and especially those poor and almost abandoned children, whose parents are ignorant, careless and indifferent to the physical conditions of their offspring. These eye tests are now quite generally recognized as being the best practical solution of the question as to how to place children in the proper channel to secure relief from ocular complaints, and as the idea is firmly established, *we think that the time is rife for another advance in the physical examination of the children.*


VISION CHART FOR SCHOOLS
PUBLISHED BY ALMER COE OPTICIAN 65 STATE ST CHICAGO
SNELLEN'S
CC
E
200
C
B C
100
LXX
N L D
70
L
R T P E
50
XL
E Z F B D
40
XXX
C T L G F O
30
XX
E O P Z F R D A
20
XV
R V T Z F H D B R O P N
15
X
N C A T G L P R V Z T E
10
INSTRUCTIONS for the EXAMINATION OF SCHOOL CHILDREN'S EYES AND EARS.
FOR USE OF PRINCIPALS TEACHERS ETC.

Many children suffer from nasal obstructions and particularly from enlargement and engorgement of the tissues in the upper part of the pharynx and throat. Such obstructions prevent free nasal breathing and cause a utilization of the mouth for this purpose, besides giving rise to deafness, on account of *a lack of proper aeration of the middle ear through the Eustachian tubes*, leading from the upper portion of the throat to the ear. These enlargements in the pharynx, called "adenoid growths or vegetations," are productive of a large majority of the chronic ear diseases from which children suffer. *Fortunately they can be easily removed*, and some of the most satisfactory surgical work ever witnessed follows such operations. These children, called "mouth breath-ers," present a peculiarly dull and stupid appearance which is aggravated by the almost invariably accompanying deafness. Removal of the growths and proper treatment to the ears completely revolutionize the appearance and character of the child, and if you have ever observed such physical and mental transformations, you will never forget them, nor fail to emphasize the importance of such work.

One important matter should be remembered in these tests, viz.: They are not conducted solely for the purpose of detecting ocular conditions requiring the use of glasses. Many seem to have the idea that they simply detect errors of refraction, but such is not the case, as they will, if properly carried out, detect the existence of almost all serious ocular diseases or conditions. The teacher does not know what disease is present, but that something is wrong; that is sufficient. The sole idea in the tests is to separate those children having good eyes and ears from the defectives. These tests should be made at the beginning of the school year, statistical reports prepared and reports of the defectives again made at the end of the school year. Those passing the tests successfully are returned to school and not re-examined for one year, when they should undergo another examination, as morbid conditions may have developed meanwhile. Those having defective eyes or ears are simply given a card of warning, which they hand to the parent This card merely states that some eye or ear disease is believed to exist, and the consulting of a physician, therefore, is advised. The matter is not compulsory, as the parent may do as he thinks best; he may consult any physician or dispensary he chooses. In this way the duty is thrown on the shoulders of the parent, where it belongs, but if compliance with the advice is not observed, the teacher may from time to time urge the matter with tact and delicacy, but nothing should be said to make the parents regard the matter as an arbitrary demand.

Many teachers outside of large cities are interested in this work, and are constantly inquiring how they may do it in places where a board has taken no official action along these lines. They may purchase one of these combination charts[1] for twenty-five cents, containing both the test-types and instructions, and proceed with the work in their room or school. To this there can certainly be no objection, as the tests are absolutely harmless in every particular.

In Minneapolis and Chicago, where these examinations were most complete, we know positively that thousands of children were much benefited by these proceedings. Cataracts were removed, cross-eyes straightened, intraocular inflammation relieved, glasses were fitted, etc.; in short, the tests have really been exceedingly beneficent in their results, and while some opposition from parents and teachers was at first encountered, nothing but commendation can now be heard from all sources.

For the Milwaukee tests the commissioner of public health and the superintendent of public schools have authorized me to design a plan for this investigation, embodying the best features from the experience of other cities. To this means I have secured the collaboration of other oculists, Drs. Charles Zimmermann, J. S. Barnes and N. M. Black, who, with myself will at appointed times instruct the grade teachers in the anatomic and physiologic relations of the eye and ear so far as may aid in these investigations, and will also instruct them in the methods of examination and keeping what records may be needed by actual demonstrations on teachers or pupils at these meetings. The tests and records will be made by the teachers for each grade, under the supervision of the principals of the school. The number of children examined should be noted, but only complete records of the defectives are to be made, which are to be done in duplicate by the room teachers and both copies sent to the principals, one copy to be kept by the principals and the other sent to my address. The cards of warning are to be filled in and sent by the principals to the parents of any child found defective. At the end of the school year the principals are to fill out the duplicate reports, stating whether or not the pupil has profited by the card of warning to its parents, and the results, as well as his impression of the usefulness of such an examination in his school. This duplicate is then to be sent to my address for use in the preparation of a report to the school board.

A compound test-card, based on the standard types of Snellen, has been designed by Dr. Frank Allport—"The Visual and Aural Chart for Schools"—and will be used in the Milwaukee examinations. Roman numerals are on one side of each line and Arabic on the other. Under the twenty-foot line are these words: "This line should be seen by a normal eye at 20 (XX) feet," and would seem to make the matter sufficiently plain. Under the ten-foot line, on the card proper, is a half-broken line at which the lower portion of the compound card should be severed from the upper portion. Just under this line are printed the words: "Please detach by breaking on this line."

The card which is thus detached contains the teacher's instructions as to how to proceed with the tests. The upper or long card containing Snellen's types is the testing card, and should be hung on the wall when in use. On the lower card of instructions is printed the following matter, most of which is already familiar to those who have used this method:

TEST CHART.

Instructions for the Examination of School Children's Eyes and Ears. For Use of Principals and Teachers. After the Method proposed by Dr. Frank Allport of Chicago, Ill.:

First grade children need not be examined.

The examination should be made privately and singly, in a room apart from the general school session.

Ascertain if the pupil habitually suffers from inflamed lids or eyes.

Children already wearing glasses should be tested with such glasses properly adjusted on the face.

Place a card of Snellen's test types on the wall in a good light; do not allow the face of the card to be covered by glass.

The line marked XX (20) should be seen at twenty feet, therefore place the pupil twenty feet from the card.

Each eye should be examined separately.

Hold a card over one eye while the other is being examined. Do not press upon the covered eye, as the pressure might induce an incorrect examination.

Have the pupil begin at the top of the test card and read aloud down as far as he can, first with one eye and then with the other.

If the pupil does not habitually suffer from inflamed lids or eyes, and can read a *majority* of the XX (20) test type with *each* eye, and does not, upon inquiry, complain of *habitually* tired and painful eyes and headache after study, his eyes may be considered satisfactory. But if he habitually suffers from inflamed lids or eyes, or can not read a *majority* of the XX (20) test type with *both* eyes, or habitually complains of tired and painful eyes or headache after study, a card of information should be sent to the parent or guardian.

FACTS TO BE ASCERTAINED.

EYES.

1. Does the pupil habitually suffer from inflamed lids or eyes?

---

[1] Vision Charts for Schools; published by Almer Coe, 65 State St., Chicago.

2. Does the pupil fail to read a majority of the letters in the number XX (20) line of the Snellen's test type with either eye.?

3. Do the eyes and head habitually become weary and painful after study?

4. Is the pupil probably cross-eyed?

EARS.

5. Does the pupil complain of ear-ache in either ear?

6. Does matter (pus) or a foul odor proceed from either ear?

7. Does the pupil fail to hear an ordinary voice at twenty feet in a quiet room?

8. Does the pupil fail to hear the tick of a good-sized watch at three feet, with either ear, in a quiet room?

9. Does the pupil fail to breathe properly through either nostril?

10. Is the pupil an habitual "mouth breather"?

If an affirmative answer is found to *any* of these propositions the pupil should be given a card or letter of warning to be handed to the parent, which should read something like this:

Dear Sir: After due consideration, it is believed that your child has some eye—ear disease, for which an eye—ear doctor of recognized standing should be consulted.

It is earnestly requested that this matter be not neglected, as children with eye—ear diseases can not attain the best results in school

Respectfully......................

Principal..........School

Either the word "eye" or "ear" may here be crossed out, as may be appropriate for the case. If the pupil has presumably *both* an eye and ear disease, *both* words may be left, and the space between the words "eye" and "ear" should be filled with the words "and".

It will be observed that these cards are non-obligatory in their nature. They do not require anything of the parent, who is at perfect liberty to take notice of the warning card or not as he sees fit. They simply warn the parent that a probable eye or ear disease exists, thus placing the responsibility upon the parent.

These instructions are repeated in the tabulated reports, and in addition instructions for ear examination as follows:

In a room apart from the general school session examine the pupils singly, ascertaining if the pupil complains of ear-ache, if matter (pus) or a foul odor proceeds from either ear, if the pupil fails to breathe freely through either nostril or if he breathes mostly through his mouth. Have the child turn his back, an assistant plugging up the left ear with a cloth over the finger. The examiner steps away about 20 feet, asks the child a direct question in a low but distinct voice requiring a direct answer. The right ear is then to be stopped and the left ear tested. If after several questions the child fails to hear the spoken words and answers incorrectly he is deemed defective. A good-sized watch is held about six feet away and gradually moved toward the ear to be tested and distance at which the subject says he hears the tick is noted. It should be heard at least three feet away from the ear. If the pupil fails to hear spoken words or the tick of the watch as above noted, if he complains of ear-ache, if pus or a foul odor is observed from either ear, if his nose is habitually stopped or if he is a mouth breather, his name and a detailed report should be entered below on this sheet by the teacher, and a card of information sent by the principal to the parent or guardian.

General suggestions and instructions are likewise found on the tabulated reports as follows:

Examine your entire school by these methods at the beginning of the school year; part of the pupils each day, so as not to interfere with the regular course of instruction. Examine each new pupil entering between beginning and end of terms. Only such pupils as are thought necessary to send to an eye or ear physician need tabulation on this blank. This sheet is to be filled in duplicate, both copies sent to your principal, one copy of which is to be sent as soon as you have completed the examination of the school to the commissioner of Health for Milwaukee. The other is to be held until the end of the school term by the principal, who will then send the duplicate copy to this address, noting thereon in the two last columns, whether the pupil consulted a physician, or if not, why; describing the results of treatment, particularly as regards the pupil's conduct, health and application to study.

One of the chief obstacles to satisfactory results in Minneapolis and Chicago was the fact that many parents took their children to jewelers and opticians instead of oculists. The cities were flooded with fulsome advertisements, and circulars from opticians and spectacle peddlers to teachers, parents and physicians soliciting their trade and influence.

This preliminary examination is not proposed simply for the purpose of ascertaining the need of glasses, but in hopes of disclosing existence of almost all ocular diseases. The eye is not merely a mechanical apparatus which, if out of order, requires for its correction a pair of glasses. A good medical education is absolutely essential for the diagnosis and treatment of astigmatism, hyperopia, myopia and imbalance of the ocular muscles; the former of which are malformations, and the latter diseases, which, in many cases, need something else than the placing of lenses before the eye as well, for cure of inflammation and work of a surgical nature.

Principals and teachers are, therefore, urged to impress upon pupils and parents the necessity for consulting reputable eye and ear doctors and not unprofessional tradespeople.

SPECIAL ARTICLE.

RELATIONS OF PHARMACY TO THE MEDICAL PROFESSION.

III.

It has been shown that confusion existing in the lay mind, and largely shared by the medical profession, concerning the so-called "patent medicines" for domestic use, is due to the popular incorrect use of the term "patent" to indicate that an article is afforded such protection as rests on priority of registration of a name for the article as a trademark, or through copyright including this. It does not mean the article is protected through letters patent issued on the process of manufacture, or on the composition of the article itself. It has also been shown that a patent is very rarely granted on the combination, or mixtures of various ingredients, or on the process of producing any medicinal preparation or mixture, if for no other reason from the fact that in the vast majority of instances it would be impossible to show any originality, improvement, or invention, even to the often limited extent necessary to satisfy the patent office requirements; hence the almost general reliance on the trade-mark laws, for protection in medicinal articles.

As has already been pointed out, it is not the intent of the trade-mark law to afford protection to the *name* of an article, but simply through its registration record priority in case of contention over a device, symbol, sign, or figure to distinguish a certain "brand" of manufactures from all other brands.

It is the evident intent of the trade-mark law to protect a manufacturer through some design of his own invention, which must be arbitrarily selected, or, as it is termed, "fanciful," and in the case of a name it must therefore not be descriptive, i. e., too closely simulate the name of any natural substance, mineral, plant, or animal, or geographic name, or that of any well-defined physical, chemical, physiologic process or mechanical or therapeutic uses. That this is a subject of difficult interpretation is self-evident, and the registration by

---

[*] The third of a series of articles to appear weekly in THE JOURNAL, designed to correct the abuses *from* advertising and patronizing pharmaceutical specialties.

different parties, often unwittingly, of names identical or nearly so, has caused endless litigation. Sometimes the difference of a single letter in the termination of a word, as for example, "digestin" and "digestine," applied to different products of different manufacturers, has caused annoyance and confusion. The most interesting illustrations of this character are the adjective derivatives—bromo, chloro, phospho, pepto—joined or hyphenated to some substantive or base, such as caffein, alum, quinin, mangan, etc. Such compound words have been held as valid trade-marks, and yet they are as nearly descriptive of the articles as any titles could possibly be. "Bromo-seltzer" comes in this category, and yet the name as a trade-mark could probably not be bought for a million dollars! The official nomenclature of the Pharmacopeia may decide what form of termination should be regarded as descriptive, but since the termination "ine," of a generic plant name, for example, stands for the alkaloid of the plant named, the application of this system to the present trade-mark names would cause a surfeit of active principles of as nondescript a collection of medicinal agents as ever graced the apothecary shop, so vividly portrayed by the "bard of Avon." "Heroine," for example, would under the definition become the alkaloid of "hero," and the active principles of the "great fathers" of antiseptic surgery would be ever with us in their "spirits."

CONFUSION OF NAMES.

Much could be said concerning the necessity from the medical standpoint, and especially from that of the prescriber, for a radical change in the system—or lack of system—in vogue for naming medicines. Scarcely a day passes but some new article appears under some fanciful name. The possibilities of the English language are great, but they will soon be exhausted, as the medical and pharmaceutical terms already are, and well-nigh also the dead languages.

So nearly similar terms are bestowed, often on widely differing articles, that, aside from the resultant confusion, there is great danger from serious error. A few illustrations will suffice: "Lactated Mercury" was a name given to a trituration of calomel. On a physician's prescription for this, lactate of mercury, a very potent mercury compound was dispensed.

In another instance a prescription was written for "mercurol," m. 10, water, fl℥ iv, for an injection. For "mercurol," written illegibly and too recent an addition to be known to the pharmacist, "mercauro" was dispensed instead; and yet the pharmacist can scarcely be blamed—"the pace is getting too swift for him" as well as for the physician.

It is for these reasons, among others, that the use of the names of the article as trade-marks is so objectionable and, in fact, so unreliable that manufacturers wholly familiar with the situation have abandoned reliance on such except when joined with a proper name. The possessive name of a person, especially of the manufacturer, joined with the name of the preparation, is fairly indicative of identity of brand, though not invariably so, as demonstrated in the celebrated cases of "Hoyt's Cologne" and "Brown's Essence of Ginger," the original makers in both instances failing to estop these manufactures by persons of these respective family names.

THE TRUE POSITION.

The very best authorities on trade-mark law at the present time, however, are unequivocally of the opinion that the name of an article can not be maintained as a trade-mark; that such use would give to the trade-mark a power not only not contemplated, but expressly interdicted by the law; that a monopoly of the manufacture of an article must rest on proven originality, invention or improvement, neither of which qualities are inherent in simply the naming of an article; in short, that if the article itself is really valuable, then the invention is entitled to a limited monopoly through patent on the article itself, the preparation, compound or mixture, or on the process of manufacture. Not to be satisfied with a limited protection expiring through limitation granted for a valuable discovery, but to seek unlimited protection—eternal monopoly—on an article unworthy of the few years of protection invested by the letters patent, is a travesty of justice and an absurdity. The justice is therefore apparent of the demand on Congress, by the National Association of Retail Druggists, submitted to the trade-mark and patent laws, revision committee, appointed by President McKinley, at its recent sitting in Chicago, that the laws should be amended so as "to prohibit the registration of names, combination of names coined or otherwise, and that such registration be confined to brands, symbols, signs and devices." This action is in line with that of the American Pharmaceutical Association, last year, in defining the status of medicinal articles for introduction into the U. S. Pharmacopeia, presented through its delegates to the Convention for Revising the Pharmacopeia in Washington, D. C., May 2.

EXTERNAL MEDICINAL AGENTS.

This class comprises all medicinal articles intended for external use; absorbents, antiseptics, astringents, deodorants, disinfectants, protectives, etc., and includes the following pharmaceutic forms:

1. Simple solutions—examples: formalin, hydrogen dioxid solution, hydrozone, glycozone.
2. Compound solutions or mixtures—examples: alphasol, eucaform, glycothymolin, listerin, bromochloralum.
3. Semiliquid mixtures—non-fatty: lubrichondrin.
4. Semisolids—non-fatty: antiphlogistin, anhydrosin. Fatty—ointments: lyptol, unguentin, vasogen; suppositories, protargol bougies.
5. Plasters, surgical dressings, soap, ligatures.
6. Powders, antiseptic powder.
7. Chemicals of definite composition: nosophen, eudoxin, etc.

In all of the above examples, only the two first mentioned have truly descriptive names, all the remainder having more or less fanciful or suggestive ones, protected, as far as known, by trade-mark or copyright registration. Hydrogen dioxid is the perfect type, since the name is the correct chemical one, and "solution" or "water of" being understood it is also the official title of the U. S. Pharmacopeia. By affixing the name of the brand, the preparation or rather the particular make of hydrogen dioxid is specified and insures all the distinction required to identify this make against all other makes. This is the ideal method and insures protection; besides, it familiarizes the reader with the name of the brand, and if favorably impressed with the preparation, on its use, he will know that any other article of this same brand is the make of a manufacturer who enjoys his confidence and is entitled to his patronage and preference. The same plan could be adopted for the naming of the two other hydrogen dioxid preparations, instead of "glycozone," the term "glycerite hydrogen dioxid" would at once indicate its character and far better identify the brand than the present title, although "ozone" as compounded with the prefixes "hydro" and "glyco" in these instances is not to be particularly criticized and is permissible. "Lubrichondrin," from "lubricating" and "chondrin," the accepted term for the mucilage of Irish moss, "Chondrus crispus," is fairly descriptive of composition and use, and this may be said also in a more limited degree of "Protargol Bougies," but with these exceptions all the examples in the first four groups have nothing to commend them and simply "make confusion worse confounded," since new recruits are received nearly every day, especially in Group 2. A general title, i. e., "Antiseptic Solution" or "Liquor Boroglycerini Compositus," the make specified, would be far more rational and satisfactory to the physician, pharmacist and dealers than the unscientific, confusing, pretentious and grotesque names bestowed on this class of preparations at the present time.

GENERAL FORMULAS.

The composition of these articles is usually known. A few are secret and these should be tabooed since they are on exactly the same level as are the "patent medicines," and like these will, sooner or later, be exploited to the laity as cure-alls, the testimonials received from medical men being used to "boost" them. Some of them are valuable therapeutic agents, as are the non-fatty mixtures of Group 4, and from their character they can not be so well prepared by the retail pharmacist, as on a larger scale. The following yields a product similar to antiphlogistin: glyceroplasma of kaolin (antiseptic). Kaolin, or white clay, is thoroughly elutriated, dried and made into a semisolid paste with glycerin, containing about 5 per cent. boroglycerin; methyl salicylate or oil of gaultheria, oil of thyme, or menthol may be incorporated. The clay must be thoroughly levigated with glycerin, best accomplished in a paint-mill. Any fine argillaceous earth will answer, provided it is entirely freed from grit, by elutriation, or water-sifting, the process by which chalk is "prepared."

OINTMENT VEHICLES.

While secrecy should not be tolerated, there is no need of the exact formulas for this class of preparations so long as they are only for external use. Except in the case of powerful germicids—phenol, mercuric compounds, etc.—enumeration of the ingredients without the exact proportions is sufficient. Nor is the process necessary, since any skilful pharmacist should be able to prepare a similar article and others need not be considered.

But in semisolid fatty preparations, the vehicle employed should be designated since it is of great importance that the physician be advised as to the general dermic properties of the preparations. Thus, in the case of ointments, the fatty vehicles determine the respective general uses of the preparation, viz., if the agent is desired merely for protection, a non-absorbent fat such as petrolatum or cerate, is wanted; if intended for subdermic use, animal or vegetable fats and oils, lard, etc., while if systemic effects are desired by inunction, hydrated wool-fat is the vehicle to induce rapid absorption of the medicinal agent.

To sumarize: the trade-names should be supplanted as early as possible by pharmaceutic ones, at least as synonyms; the general composition must always be given; the vehicles for fatty preparations should be stated; the article must not be exploited to the laity, in order to secure medical patronage.

Chemicals of Group 7 will be treated under "chemicals made by patent processes."

Therapeutics.

Stomatitis Aphthosa.

Paint the affected areas four or five times with:

℞. Borax ....4 parts
Tincture of myrrh ....8 parts
Syr. of mulberries ....60 parts
M.
℞. Borax ....4 parts
Tincture of benzoin ....2 parts
Distilled water ....10 parts
Syrup ....20 parts
M.
℞. Sodium phosphate ....10 parts
Orange-flower water ....25 parts
Honey of roses ....50 parts
M.
℞. Calcium chlorate ....2 parts
Honey ....20 parts
M.
R. Potassium chlorate ....3 parts
Distilled water ....60 parts
M. Apply four or five times a day. —*Levi.*

℞. Sodii boratis ....ʒi 4
Tinct. myrrhæ ....ʒii 8
Syrupi ....ʒxv 60
M.
R. Acidi salicylici ....ʒss 2
Spt. vini rectif ....ʒiiss 10
Glycerini ....ʒv 20
—*Hirtz.*

℞. Potassii chloratis ....ʒi 4
Aquæ destillatæ ....ʒS¼ 200
Tinct. myrrhæ ....gr. xlv 3
M. Sig. To inject into the mouth. —*Monti.*

In obstinate cases with great pain, especially affecting the tongue:

R. Sodii salicylatis ....ʒv 20
Aquæ destillatæ ....ʒxxv 100
M. Sig. Use as a wash.
Or
R. Hydrargyri chloridi corrosivi ....gr. iii 2
Aquæ destil. ....ʒxxv 100
M. Sig. To apply with a brush. —*Levi.*

℞. Aquæ destil.
Glycerini, āā ....ʒiiss
Iodini
Potassii iodidi, āā ....gr. vi
M. Apply to lesions. —*Marfan.*

℞. Potassii chloratis ....ʒi
Tinct. myrrhæ ....gtt. xx
Elixir calisayæ ....℥iii
M. Sig. Teaspoonful in water every four hours. Caution: Not to be used in acute nephritis. —*Hare.*

Irritable Bladder.

℞. Benzoic acid
Borax, āā ....ʒiv
Alcohol ....ʒiv
Tinct. hyoscyamus ....ʒii
Syr. wild cherry ....℥ii
Elixir orange peel ....ʒxii
Distilled water, q. s. ad ....℥vi
M. Sig. A dessertspoonful every four hours, followed by a glass of water. —*Todd: Therap. Digest.*

Ichthyol in Burns.

Ichthyol is efficacious in burns of the first and second degrees. It allays the pain at once, and slight superficial burns heal rapidly. It is used dry, diluted with zinc oxid or bismuth—the powder being spread evenly over the surface—in the form of paste, or as a combination of both methods. The zinc-oxid powder may be combined as follows:

℞. Zinci oxidi ....℥v
Magnesii carbonatis ....℥ii
Ichthyol ....flʒii

Below is the compositon of the paste:

℞. Calcii carbonatis ....℥i
Zinci oxidi ....ʒiv
Ol. olivæ ....℥i
Liquor. calcis ....℥i
Ichthyol ....ʒi
—*Monatsh. f. prak. Dermat.*

Seasickness.

From the *Practitioner's Manual* we quote the following:

The mere fact of being upon a vessel does not preclude the possibility that the nausea, vomiting, headache, depression, sleeplessness, pallor, perspiration, may have other causes than the one most likely under the circumstances, or that there may be some complications requiring most prompt and urgent attention. Examination of the abdomen may disclose signs of volvulus, appendicitis, obstruction, etc. Begin three days before sailing and continue for first three days out to take:

℞. Ext. taraxaci
Ext. colocynth. comp, āā ....gr. xx
Ext. hyoscyami ....gr. iii
Ext. nucis vomicæ ....gr. v
Massæ hydrargyri ....gr. xv
M. et fiant pil. No. xx. Sig. One or two each night. During this time let the diet be simple. Avoid fluids. Keep the recumbent posture on deck.

PREVENTIVE TREATMENT.

For an hour before embarking give every quarter hour, strychnin sulphate (arseniate or hypophosphate) gr. 1/120, in granules or tablet triturate. A combination of these three salts of strychnin, gr. 1/120 of each, can be given for three days, three times daily, and each night half a grain of podophyllin. —*Le Grix.*

Wear a tight bandage or belt from the ensiform cartilage to below the umbilicus. Potassium bromid, ʒss—ʒi: take, upon embarking, in a large glass of soda water and repeat for long voyages in perhaps smaller dose; or take chloral in corresponding large dose. Remove bile by giving hot water to provoke emesis. —*T. Lauder Brunton.*

Bromization is demanded, and this must be induced and kept up two or three days before, and continued for several days after sailing, and sometimes even through the entire voyage. The amount necessary to produce mild bromization varies in individual cases. Thirty grains three times a day may be sufficient, but in many cases it is necessary to give much more than this. Because of its greater acceptability to the stomach, the bromid of sodium is much to be preferred to the bromid of potassium. —*Rockwell.*

TO ARREST VOMITING.

℞.	Cocainæ hydrochloratis	
	Ext. opii, āā	gr. iss
	Powd. marshmallow root	q. s.

M. et div. in pil. No. x. Sig. One pill every second hour.

℞.	Chloroformi	
	Tinct. nucis vomicæ, āā	gtt. x
	Comp. tinct. lavender	ʒi
	Water	ʒx

M. A teaspoonful to be taken every hour until the vomiting and nausea have subsided, care being taken to shake the bottle each time before the dose is poured out. —*Barbas.*

℞.	Menthol	gr. iss	1	1
	Cocain hydrochlor	gr. iii		2
	Alcohol	ʒxv	60	
	Syr. simp.	ʒviiss	30	

M. Sig. Teaspoonful every half hour. —*Morel-Lavallée.*

Treatment of Stomatitis Ulcerosa.

℞.	Acidi thymici (thymol)	gr. iv
	Acidi benzoici	℈ii
	Tinct. eucalypti	℥ss
	Spt. vini rect.	℥iii
	Spt. menthæ pip	gtt. x

M. Sig. Drop enough into a glass of water to cause turbidity, and rinse the mouth morning and night.

—*Muller.*

℞.	Tannin	ʒii
	Tinct. iodini	℈iv
	Potassii iodidi	gr. xx
	Tinct. myrrhæ	℈iv
	Aquæ rosæ	℥viii

A dessertspoonful in a small glassful of warm water is used to wash the mouth with thoroughly every morning.

—*Thomas.*

℞.	Sodii biboratis	ʒiss
	Sodii bicarbonatis	ʒss
	Thymol	gr. iii
	Glycerini	ʒi
	Aquæ laurocerasi, q. s., ad	℥iv

M. Sig. Use as a wash. —*Thomas.*

Treatment of Hemorrhoids.

In the *Presse Médicale* for December, Dr. R. Rounne recommends the following suppositories when there are slight excoriations or small losses of blood:

℞.	Chrysarobin	gr. iss		072
	Iodoformi	gr. 3/10		018
	Ext. belladonnæ	gr. 16/100		009
	Olei theobrom	gr. xxx	2	

M. For one suppository. Two or three suppositories may be used daily.

Later the suppositories may be replaced by the following ointment:

℞.	Chrysarobin	gr. xii		8
	Iodoform	gr. ivss		27
	Ext. belladonna	gr. ix		6
	Vaselin	ʒiiss	10	

M. For local applications several times a day.

Diuretic, With Iron.

℞.	Tinct. ferri acetatis	ʒiv
	Potassii acetatis	ʒiv
	Syrupi simplicis	
	Aquæ, āā	℥ii

M. Sig. Two or three teaspoonfuls four times a day.

Asthmatic Bronchitis.

Torres Homen recommends, in *O Brazil Medico,* a tablespoon of the following, five minutes before the two principal meals, in cases of bronchitis with asthma:

℞.	Sodii arseniatis	gr. iss		10
	Aquæ destil	℥ixss	300	

Treatment of Seborrhea.

Dr. J. F. Payne, in "Allbutt's System of Medicine," says: There are many popular remedies for dandruff. Washing, alkalies, lime-water, borax, etc., have some efficacy in removing the scurfy condition, for a time. And admitting that this condition is almost certainly due to the action of microbes, we treat it upon this supposition. Hence, first we shall disinfect the skin of the head as thoroughly as possible. For this purpose an antiseptic soap may be used; I prefer one containing biniodid of mercury. After washing with this a few times the scalp is to be brushed over with perchlorid of mercury solution (1 to 1000), either aqueous or alcoholic. But this treatment is not sufficient, and irritation is often produced by the antiseptic; we then have recourse to sulphur combined with carbolic acid or tar, as follows:

℞.	Sulph. præcip.	gr. xv
	Acidi carbolici	m. xv.
	Olei amygd. amar	m. iii
	Paraffin moll	℥i

M. ft. Unguent.

Coal-tar solution may be substituted for carbolic acid, and the ointment may be scented with an essential oil. Resorcin, either in a lotion—2 to 5 per cent.—or combined with sulphur in an ointment—the same proportions as given for carbolic acid—is also a very efficacious means. The ointment should be rubbed thoroughly into the roots of the hair once a day for a fortnight, and afterward used occasionally. Since patients will not tolerate greasy applications for very long, a lotion or hair wash must then be substituted. The following prescriptions are useful:

℞.	Liq. carbon deterg.	m. iv ad x
	Glycerin	ʒss
	Aquæ rosæ ad	℥i

M. ft. lotio.

℞.	Glycerit. acidi tannici	ʒi to ʒii
	Acidi carbolici	m. v
	Aquæ rosæ, ad	℥i

M. ft. lotio.

℞.	Acet. cantharidis	ʒss
	Hydrarg. bichloridi	gr. i
	Spt. camphoræ	m. iii
	Aquæ dest.	℥i

M. ft. lotio.

The latter is used only when there is an entire absence of inflammation, as a stimulant to hair growth.

Too frequent washing with insufficient drying greatly favors the production of dandruff, and must be avoided. Seborrhea of the body, if not complicated with eczema, is easily got rid of by thorough washing followed by a sulphur ointment or lotion, or one of the other remedies recommended above for the scalp. In all affections of the head, brushes, combs, and other articles should be kept thoroughly disinfected with borax or carbolic acid.

TREATMENT OF SEBORRHEA OLEOSA.

The first step here is thoroughly to remove the sebaceous crusts, for which purpose inunction with some oily substance—such as pure olive oil, carbolized oil, a mixture of equal parts olive oil and fresh lard, or others—is necessary. These should be left on for twelve hours, and the head then washed with soap or, if the skin is inflamed, with yolk of egg. The subsequent treatment is the same as for the other variety. Sulphur in some form is the most efficient remedy.

INTERNAL TREATMENT OF SEBORRHEA.

Generally speaking, no internal treatment is necessary, and from my own experience I believe that internal conditions have little to do with the production of seborrhea. But two points have to be considered. 1. Gastric dyspepsia, though far from producing seborrhea of the scalp, may aggravate the condition when present, chiefly by producing irritation of the skin and consequent scratching. The same is true of constipation. It may then not be superfluous to correct morbid conditions of the stomach and bowels as far as possible. 2. The general nutrition of the skin may be bad, and consequently the seborrheic process gets firmer hold. Hence it may be advantageous to give a course of arsenic, which has acquired a special reputation in the treatment of certain forms of seborrhea corporis.

Medicolegal.

Five Hundred Dollars for Four Hours' Pain and Suffering.—The Supreme Court of Arkansas holds not excessive, in St. Louis, Iron Mountain & Southern Railway Company vs. McCain, Administrator, an award of $500 for the pain and suffering caused by an injury which terminated fatally in four hours' time.

Liability for Infection of [illegible] The [illegible] tion in the New Hampshire case of Edward [illegible] n for negligence, alleged that the def [illegible] sur-

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, April 21.

1.—*Senile Arterial Plethora. (*Concluded.*) T. Clifford Allbutt.
2.—*Wesley M. Carpenter Lecture on Infection Through the Tonsils, Especially in Connection with Acute Articular Rheumatism. (*Continued.*) Frederick A. Packard.
3.—*Report of Two Cases of Fracture of Shaft of Radius. W. B. Lowman.
4.— Appendicular Abscess Rupturing into Sac of Reducible Inguinal Hernia; Operation by Drainage, with Permanent Cure of Hernia, Intussusception of Bowel Relieved by Operation; Relapse and Second Operation. Chronic Hematocele of Tunica Vaginalis Testis Associated with Encysted Omental Hernia Resembling Malignant Disease of Testicle. Orville Horwitz.
5.—*Early Operation in Appendicitis by Country Practitioner; Report of Case Probably Caused by Typhoid Infection. R. H. Harper.

New York Medical Journal, April 21.

6.—*Cancer of Stomach in the Young. William Osler and Thomas McCrea.
7.—*Contribution to Histopathology of Epidermolysis Bullosa (Hereditaria). (*Continued.*) George T. Elliot.
8.—*Consideration of Neuromuscular Elements in Hip-Joint Disease. With Especial Reference to Question of Abolition of Protective Treatment. Newton M. Shaffer.
9.—*Present Status of Widal Reaction as Diagnostic Test in Typhoid Fever. Arthur R. Guerard.
10.—*Mysticism Among Negroes. F. Julian Carroll.
11.— Hepatic Abscess. J. F. Richardson.
12.—*Some Practical Remarks on Clinical Examination of Blood. William N. Berkeley.

Medical News (N. Y.), April 21.

13.—*Pain as Pathognomonic Symptom of Ectopic Pregnancy. Henry C. Coe.
14.—*Tuberculous Disease of Urinary Apparatus. J. M. Gile.
15.—*Case of Probable Accidental Inoculation with Malarial Parasite. William H. Katzenbach.
16.—*Curability and Treatment of Early Phthisis. W. F. Hazelton.
17.— Lateral Sinus Thrombosis and Acute Leptomeningitis, both Complicating Acute Suppurative Otitis Media; Complete Perforation of Cranial Wall Above and External to Antrum. Wendell C. Phillips.

Medical Record (N. Y.), April 21.

18.—*Formation of Artificial Anus. Robert F. Weir.
19.—*Indications for Constitutional Treatment of Catarrhal Affections of Upper Air-Passages. Walter A. Wells.
20.— Case of Fracture and Medical Ethics. E. S. Goodhue.
21.—*Use of Electricity in Chronic Rheumatism. William J. Morton.

Boston Medical and Surgical Journal, April 19.

22.—*Intermenstrual Dysmenorrhea. Malcolm Storer.
23.— Treatment of Cancer of Cervix of Uterus Complicated by Pregnancy. George Ben Johnston.
24.— Third International Congress of Obstetrics and Gynecology, held at Amsterdam, Aug. 8-12, 1899. George J. Englemann.
25.— Gunshot Wound of Abdomen, with Multiple Wounds of Intestine. Howard A. Lothrop.
26.—*Practical Value of White Blood Count in Surgical Cases. J. C. Hubbard.

Cincinnati Lancet-Clinic, April 21.

27.—*Deep Breathing vs. Tuberculosis. H. H. Spiers.

Medical Review (St. Louis, Mo.), April 21.

28.—*Report of Case of Gunshot Wound of Pregnant Uterus and Fetus; Cesarian Section; Recovery. H. L. Nietert.

American Practitioner and News (Louisville, Ky.), March 1.

29.— Diagnosis of Glaucoma without Ophthalmoscope. M. F. Coomes.
30.— Cholelithiasis. R. C. Falconer.
31.— Cerebrospinal Meningitis. T. D. Williams.
32.— Typhoid Fever a Curable Disease. J. L. Stillings.

Medical Age (Detroit, Mich.), April 10.

33.— Some Remarks Concerning Suitable Treatment Before, During and After Surgical Operations. J. A. Jackson.
34.— Technique Governing Use of Harris's Urine Separator. H. F. Harris.

Bulletin of Johns Hopkins Hospital (Baltimore), March.

35.—*Notes on Improved Method of Removing Cancerous Uterus by Vagina. Howard A. Kelly.
36.—*Preliminary Report of Surgical Treatment of Complicated Fibroid Tumors of Womb, with Description of Two Methods of Operating. Howard A. Kelly.
37.— Congenital Malformations of Heart as Illustrated by Specimens in Pathologic Museum of Johns Hopkins Hospital. W. G. Mac Callum.

Journal of Cutaneous and Genito-Urinary Diseases (N.Y.), April.

38.—*Contribution to Histogenesis of Melanosarcoma of Skin. Alfred Schalek.
39.—*Notes of Thought on Malignant Tumors. B. H. Buxton.
40.— New Urethral Instillation Syringe. Angus McLean.

Laryngoscope (St. Louis, Mo.), April.

41.— Past and Present of Laryngology. Orlando B. Douglas.
42.— Associated Frontal Sinus and Mastoid Disease. Thomas J. Harris.
43.— Case of Carcinoma of Pharynx. Gottlieb Klaer.
44.—*Tooth in Left Nasal Cavity Causing Purulent Rhinitis. Homer Dupuy.
45.— Radical Treatment of Follicular Tonsillitis. M. A. Goldstein.

Denver Medical Times, April.

46.— Report of Case of Mucous Colic. H. B. Forbes.
47.— Influence of Infectious and Hereditary Diseases on Developing Mind. J. A. Lambert.
48.—*Typhoid Fever. G. Law.
49.— Nose and Throat Affections. C. H. Powell.
50.— Report of Case of Septicemia and its Treatment. Arthur C. Bell.
51.—*Medical Science of Talmud. Nuphtuli Herz Imber.

Medical Standard (Chicago), April.

52.— Diagnosis of Diseases of Heart. Albert Abrams.
53.—*Incurability of Leprosy. Albert S. Ashmead.
54.— Laryngeal Tuberculosis, Suppurative Ethmoiditis and Acute Non-Suppurative Ethmoiditis. William L. Ballenger.
55.— Measles and Treatment. Marcus P. Hatfield.
56.— Urinary Diagnosis and Treatment, Including Microscopic and Chemical Examination. J. W. Wainright.
57.—*Strangulated Hernia from General Practitioner's Standpoint. C. F. Wahrer.
58.— Diagnosis and Treatment of Ectopic Gestation. C. K. Fleming.

Ophthalmic Record (Chicago), April.

59.— Need of More Careful Measurements of Refraction. E. W. Stevens.
60.—*Study of Changes in Refraction in 400 Eyes During Seven Years. Howard F. Hansell.
61.— The "Crossed Cylinder" in Determination of Refraction. T. B. Schneideman.
62.— Dioptric Power of Cornea. William N. Suter.
63.— Extraction of Congenitally Dislocated Opaque Lenses, with Presentation of Case. Wm. H. Wilder.

Chicago Clinic, April.

64.— Rachitis. Frank B. Earle.
65.— Study and Dissection of Pelvic Outlet. W. T. Eckley.
66.— Retrostrictural Edema in Female Bladder. Gustave Kolisher.
67.— Report of Case of Cystinuria Complicated with Uricacidemia. G. A. Gilbert.
68.— Surgery of Hand. W. A. Kuflewski.

Louisville Monthly Journal of Medicine and Surgery, April.

69.—*Ureteral Fistulæ. T. S. Bullock.
70.—*Nitrous Oxid. W. E. Grant.
71.—*Lobar Pneumonia: Its Treatment. C. L. Venable.
72.— Review of Progress of Medicine during Nineteenth Century. H. Brooker Mills.
73.—*Systemic Anesthesia of Chloroform and Ether: Practical Points from a Personal Experience of 2300 Cases. (*Continued.*) James W. Guest.
74.— Case of Rabies. D. L. Field.
75.— Gunshot Wounds. H. G. Sandlin.

Physician and Surgeon (Detroit and Ann Arbor, Mich.), March.

76.—*Pathology and Treatment of Typhoid Fever. George Dock.
77.—*Report on Question of Contagiousness of Pulmonary Consumption. Johann Flintermann.
78.—*Earlier Diagnosis and Treatment of Pulmonary Tuberculosis. George Duffield.
79.—*Complicated Wounds of Intestines. Hal C. Wyman.
80.— Forceps and Gauze Carrier. Emil Amberg.

New York Lancet, March.

81.—*Cleanliness in Minor Gynecology. Alex. J. C. Skene.
82.— "Floaters" in Urine. Ferd. C. Valentine.
83.— Brief Discussion of Certain Conditions Frequently Associated with Movable Kidney. Charles M. Niesley.

Kansas City Medical Index-Lancet, March.

84.— Address Before Grand River Medical Association. F. W. Burke.
85.— Displacements of Uterus. H. C. Crowell.
86.— Rectal and Anal Surgery. Samuel G. Gant.
87.—*Clinical Report on Cases of Unusual Interest. Thomas H. Manley.
88.—*Further Observations on Treatment of Abdominal Viscera Through Colon. Fenton B. Turck.
89.— Convulsions in Children and Their Significance. John Punton.

Texas Medical Journal (Austin), April.

90.—*Vaccination. H. A. Engelhardt.
91.—*Scalp Wounds. W. E. Fowler.
92.—*Electricity and Gynecology. M. B. Grace.

The Stylus (St. Louis, Mo.), April.

93.— Paresthesia. Acne. John V. Shoemaker.
94.— Salpingo-Oöphorectomy and Suspension of Retroflexed Uterus: Remarkable Abdominal Spasms and Post-Operative Hemorrhage; Abdomen Reopened; Recovery. Spencer Grave.
95.— Case of Hemiplegia of Specific Origin. Sidney I. Schwab.
96.— Interesting Decision. John A. Harrison.
97.— Radical Treatment of Follicular Tonsillitis. M. A. Goldstein.
98.— Limitations of Tuberculosis. Wm. Porter.

Medical Council (Philadelphia), April.

99.— Selection of Frames and Prescribing Them with Glasses. A. H. P. Leuf.
100.— Case of Dislocation of Shoulder with Unsuspected Fracture of Anatomic Neck of Humerus. J. M. Salmon.
101.— A Safe Inhaler. Willis Cummings.
102.— Treatment of Pneumonia in Children. Abraham Goltman.
103.— Failure of Buisson Treatment of Hydrophobia. C. M. Smith.
104.— Pigeon Post Pointers. (*Continued.*) Charles L. Lang.
105.— Uterine Fibroid: Ruptured Ovarian Cyst. E. E. Montgomery.
106.— Chronic Middle Ear Catarrh. E. B. Gleason.
107.— Points in Surgery. William V. Morgan.

of the broad ligament which displaces the pelvic organs. A persistent pain following the acute attack may indicate localized peritonitis.

14. **Tuberculous Disease of Urinary Organs.**—Gile finds that tuberculous disease of the urinary organs is a condition of considerable frequency, more so probably than the number of cases diagnosed would indicate. Its course is variable; it may be rapidly fatal or chronic, and for certain diagnosis one must depend on the bacteriologist, though this course does not always definitely localize the trouble. He does not think that the affection originates in the kidneys as a rule, but that many cases start primarily from the bladder. The hereditary character of the disease appears to be more definitely marked than in pulmonary tuberculosis. From his own cases he thinks it occurs more frequently in early adult than, as frequently said, in middle life.

15. **Accidental Malarial Inoculation.**—Katzenbach reports a case of a physician, thoroughly examined bacteriologically, where malaria was apparently contracted through an operation of hysterectomy on a woman who had recently come from a malarial district in North Carolina. The parasite found was of the estivo-autumnal type, which has not prevailed in New York, and the patient had previously been in good health.

16. **Curability of Early Phthisis.**—Hazelton reviews the statistics reported by various authorities as to the proportion of cured cases of tuberculosis. He thinks the fact established that from 10 to 50 per cent. of cases, according to individual resistance and promptness of treatment, are curable.

18. **Artificial Anus.**—The difficulties of properly producing an artificial opening of the intestines are noticed by Weir, who reviews the different methods and sums up as follows. 1. An artificial anus of a temporary character can be best established by Maydl's operation or by Bodine's modification. 2. Overslipping of feces may be prevented by proper spur formation, by narrowing the rectal opening, or by occluding the rectal end of the bowel, which may be fastened in the wound or dropped into the abdominal cavity. 3. Continence of the abnormal outlet is aided by muscle separation (Maydl) or by muscle bridging (von Hacker and Hartmann), or by the use of inflatable or moulded plugs or other apparatus. 4. It is only, however, to be *satisfactorily effected—though larger experience in this is desirable*—by an extra-abdominal iliac outlet (Witzel's iliac colostomy) to be made by opening the bowel outside and behind the iliac spine. In this procedure the bowel is compressed between the edge of the bony pelvis and the skin.

Many other methods have been proposed. Some, like Witzel, have made the outlet externally, but by gouging a hole through the iliac bone. Other schemes have been tried and have failed. A few are unsurgical. Perhaps some have promise, and may in time, their value not now being recognized, develop into methods of note. He has himself operated in 30 cases with 9 deaths, 2 from cancer, 3 from ulceration and 4 from obstruction. In 18 of these, colostomy was a preliminary to operation or was a curative agent. There were 7 in which the opening was subsequently closed.

19. **Constitutional Treatment of Catarrh.**—The catarrhal affection of the upper air-passages, or what may be so-called, from diseases of other regions of the body are noticed by Wells. He thinks that the responsibility for much of the greater number of secondary catarrhal affections of the upper respiratory organs belongs to the gastro-intestinal system. Among these he specially mentions a form of throat disorder involving the lingual tonsil as connected with dyspepsia, and he also notes the condition of intestinal flatulence insisted on by Moritz Schmidt as a factor in the production of catarrhal diseases of the upper air-passages. Those of the reproductive organs, etc., are also noted, and especially the so-called uric acid diathesis. This last he considers as often having much to do with the nervous irritability, which he calls neurohyperkinesia, and this, with other conditions like hysteria and neurasthenia, is often responsible for catarrhal disorders. He gives a few brief indications as to treatment for each of these.

21.—See abstract in The Journal of April 14, p. 934.

22. **Intermenstrual Dysmenorrhea.**—After briefly reporting twenty cases of his own observation, Storer remarks that he has collected twenty-five more from the scanty literature on the subject. He found that in these the pain appeared regularly every month, within a few days of a definite period, generally along about the 12th to 16th day. In most cases it was paroxysmal, in about one-half it resembled that of menstruation. Its duration was generally two to three days. The pain was sharply limited in 14 cases; in 12 it was more general. In no case was there any discharge. It certainly is not always ovarian and in a large proportion there was a more or less inflammatory condition of the appendages. The various theories of the condition are reviewed and the objections to them stated. The author offers the following theory which, for the want of a better name, he calls "the awakening of menstrual activity" theory: "The intermenstrual pain coming about the fourteenth day from the beginning of menstruation, the nineteenth after the climax of Stephenson's wave, occurs just about the time the pressure line has reached its lowest point. Can not then the intermenstrual wave, if one exists, be one of preparation rather than a subsidence, a nervous explosion, so to say, as if nature were waking up with a more or less violent effort to make ready for the coming activity, whether menstrual or ovarian? We have seen how for nearly three weeks the wave of vital energy has been running down hill and the system has, as it were, got into a rut. Nature suddenly says this decline must be stopped, and in the readjustment of forces that ensues as the human machine begins to work again with greater energy, it is not to be wondered that there should be groaning from some of the machinery, which, however, after a day or two finds its bearings again and then works automatically and in silence. *This theory would not be incompatible* with the fact that this pain occurs under such a variety of pathologic conditions, ranging from simple endometritis to pyosalpinx and fibrosis. The pain does not of necessity come from any one organ, but from whatever organ is the most irritable or diseased, will come the loudest protest at the sudden arresting of the comfortable vital decline."

26. **White Blood Count in Surgery.**—Hubbard finds, from an analysis of the surgical records of the Massachusetts General Hospital, that the white blood count may vary very largely without indicating the condition of suppuration, and that from *our present knowledge of the cause and variations of leucocytosis*, we can not make any deductions simple enough to be of great use to the surgeons at the bedside. In some cases the blood count may indicate an exactly opposite condition to what is shown by the physical signs.

27. **Deep Breathing vs. Tuberculosis.**—The point of Spiers' article is that by deep breathing we call into exercise the healthy lung tissue we possess, and cause better aeration and better blood-supply. The bacilli of tuberculosis can not act provided the aeration of the blood is perfect. He says that the number of germs in the atmosphere is of little moment provided there is *perfect aeration of the blood*.

28. **Gunshot Wound of Fetus.**—Nietert reports a case of gunshot wound involving the uterus and fetus, followed by Cesarian section and recovery of the mother. The notable points of the case are the rarity of the accident and the absolute lack of any infection, nothwithstanding the bullet's passing through several layers of dirty clothes. There was a large powder burn on the skin, and the patient confessed, when confronted by this fact and its necessary inference, that the wound was self-inflicted.

35. **Operation in Cancerous Uterus.**—Kelly says that his views in regard to extirpation of cervical cancer have changed somewhat during the past year, and that he now believes that glandular metastases are not so important in mammary cancer or are rare until the later stages. He offers a new method of operation which he details at length. He first insists on catheterization of the ureters. Then, after curetting, he cuts through the vagina on all sides, strips it loose from the bladder, opening the peritoneum as widely as possible. If the bladder is diseased, the base of it may be cut off and left sticking to the cervix. The uterus being attached by its broad ligaments alone, a gauze pack is inserted behind it, while the anterior wall is pulled down *with the forceps through the anterior incision*,

[illegible]

AMERICAN

1. **Senile Arterial Fibrosis.** [illegible]

2. [illegible]

3. [illegible]

[illegible] He favors the use of [illegible] treatment [illegible] that the [illegible] have passed [illegible] and the [illegible] The latter [illegible] nature of [illegible] is important. Still the danger [illegible] it may be at once placed on [illegible] treatment by rest and [illegible]ment.

[illegible] **Widal Reaction.**—Girard concludes, from a resume of [illegible] published facts and his own experience of three years in [illegible] at about fifty specimens a week, that the Widal reaction is as reliable a test as any in [illegible] The same reaction is never present in other [illegible] carefully tested and in proper dilution. It does not [illegible] as a rule during the first few days of disease. It is usually manifested before the eruption appears and is [illegible] occasionally late in its appearance or very rarely absent. While [illegible] limitations, it is nevertheless of value [illegible] in irregular and mild cases of typhoid.

10. **Mysticism Among Negroes.**—Carroll describes the superstitious ailments of negroes and his success in treating them under the [illegible] of an old experienced physician. His treatment was purely mental, the performance largely to affect the imagination, and its success was brilliant.

12. **Clinical Examination of Blood.**—The vital facts to be ascertained in the examination of the blood are: 1. Number and character of red corpuscles. 2. Number and character of white. 3. Proportion of [illegible] of white. 4. Presence of parasites. He [illegible] the method of counting, but the [illegible] more valuable. The usual method of [illegible] The [illegible] for Ehrlich's triacid [illegible] None but Griffith's [illegible] Of the primary [illegible] can be diagnosed [illegible] in a few minutes [illegible] study with the [illegible] He has not found any case of [illegible] parasites [illegible]

[illegible]

of the broad ligament which displaces the pelvic organs. A persistent pain following the acute attack may indicate localized peritonitis.

14. **Tuberculous Disease of Urinary Organs.**—Gile finds that tuberculous disease of the urinary organs is a condition of considerable frequency, more so probably than the number of cases diagnosed would indicate. Its course is variable; it may be rapidly fatal or chronic, and for certain diagnosis one must depend on the bacteriologist, though this course does not always definitely localize the trouble. He does not think that the affection originates in the kidneys as a rule, but that many cases start primarily from the bladder. The hereditary character of the disease appears to be more definitely marked than in pulmonary tuberculosis. From his own cases he thinks it occurs more frequently in early adult than, as frequently said, in middle life.

15. **Accidental Malarial Inoculation.**—Katzenbach reports a case of a physician, thoroughly examined bacteriologically, where malaria was apparently contracted through an operation of hysterectomy on a woman who had recently come from a malarial district in North Carolina. The parasite found was of the estivo-autumnal type, which has not prevailed in New York, and the patient had previously been in good health.

16. **Curability of Early Phthisis.**—Hazelton reviews the statistics reported by various authorities as to the proportion of cured cases of tuberculosis. He thinks the fact established that from 10 to 50 per cent. of cases, according to individual resistance and promptness of treatment, are curable.

18. **Artificial Anus.**—The difficulties of properly producing an artificial opening of the intestines are noticed by Weir, who reviews the different methods and sums up as follows. 1. An artificial anus of a temporary character can be best established by Maydl's operation or by Bodine's modification. 2. Overslipping of feces may be prevented by proper spur formation, by narrowing the rectal opening, or by occluding the rectal end of the bowel, which may be fastened in the wound or dropped into the abdominal cavity. 3. Continence of the abnormal outlet is aided by muscle separation (Maydl) or by muscle bridging (von Hacker and Hartmann), or by the use of inflatable or moulded plugs or other apparatus. 4. It is only, however, to be satisfactorily effected—though larger experience in this is desirable—by an extra-abdominal iliac outlet (Witzel's iliac colostomy) to be made by opening the bowel outside and behind the iliac spine. In this procedure the bowel is compressed between the edge of the bony pelvis and the skin.

Many other methods have been proposed. Some, like Witzel, have made the outlet externally, but by gouging a hole through the iliac bone. Other schemes have been tried and have failed. A few are unsurgical. Perhaps some have promise, and may in time, their value not now being recognized, develop into methods of note. He has himself operated in 30 cases with 9 deaths, 2 from cancer, 3 from ulceration and 4 from obstruction. In 18 of these, colostomy was a preliminary to operation or was a curative agent. There were 7 in which the opening was subsequently closed.

19. **Constitutional Treatment of Catarrh.**—The catarrhal affection of the upper air-passages, or what may be so-called, from diseases of other regions of the body are noticed by Wells. He thinks that the responsibility for much of the greater number of secondary catarrhal affections of the upper respiratory organs belongs to the gastro-intestinal system. Among these he specially mentions a form of throat disorder involving the lingual tonsil as connected with dyspepsia, and he also notes the condition of intestinal flatulence insisted on by Moritz Schmidt as a factor in the production of catarrhal diseases of the upper air-passages. Those of the reproductive organs, etc., are also noted, and especially the so-called uric acid diathesis. This last he considers as often having much to do with the nervous irritability, which he calls neurohyperkinesia, and this, with other conditions like hysteria and neurasthenia, is often responsible for catarrhal disorders. He gives a few brief indications as to treatment for each of these.

21.—See abstract in THE JOURNAL of April 14, p. 934.

22. **Intermenstrual Dysmenorrhea.**—After briefly reporting twenty cases of his own observation, Storer remarks that he has collected twenty-five more from the scanty literature on the subject. He found that in these the pain appeared regularly every month, within a few days of a definite period, generally along about the 12th to 16th day. In most cases it was paroxysmal, in about one-half it resembled that of menstruation. Its duration was generally two to three days. The pain was sharply limited in 14 cases; in 12 it was more general. In no case was there any discharge. It certainly is not always ovarian and in a large proportion there was a more or less inflammatory condition of the appendages. The various theories of the condition are reviewed and the objections to them stated. The author offers the following theory which, for the want of a better name, he calls "the awakening of menstrual activity" theory: "The intermenstrual pain coming about the fourteenth day from the beginning of menstruation, the nineteenth after the climax of Stephenson's wave, occurs just about the time the pressure line has reached its lowest point. Can not then the intermenstrual wave, if one exists, be one of preparation rather than a subsidence, a nervous explosion, so to say, as if nature were waking up with a more or less violent effort to make ready for the coming activity, whether menstrual or ovarian? We have seen how for nearly three weeks the wave of vital energy has been running down hill and the system has, as it were, got into a rut. Nature suddenly says this decline must be stopped, and in the readjustment of forces that ensues as the human machine begins to work again with greater energy, it is not to be wondered that there should be groaning from some of the machinery, which, however, after a day or two finds its bearings again and then works automatically and in silence. This theory would not be incompatible with the fact that this pain occurs under such a variety of pathologic conditions, ranging from simple endometritis to pyosalpinx and fibrosis. The pain does not of necessity come from any one organ, but from whatever organ is the most irritable or diseased, will come the loudest protest at the sudden arresting of the comfortable vital decline."

26. **White Blood Count in Surgery.**—Hubbard finds, from an analysis of the surgical records of the Massachusetts General Hospital, that the white blood count may vary very largely without indicating the condition of suppuration, and that from our present knowledge of the cause and variations of leucocytosis, we can not make any deductions simple enough to be of great use to the surgeons at the bedside. In some cases the blood count may indicate an exactly opposite condition to what is shown by the physical signs.

27. **Deep Breathing vs. Tuberculosis.**—The point of Spiers' article is that by deep breathing we call into exercise the healthy lung tissue we possess, and cause better aeration and better blood-supply. The bacilli of tuberculosis can not act provided the aeration of the blood is perfect. He says that the number of germs in the atmosphere is of little moment provided there is perfect aeration of the blood.

28. **Gunshot Wound of Fetus.**—Nietert reports a case of gunshot wound involving the uterus and fetus, followed by Cesarian section and recovery of the mother. The notable points of the case are the rarity of the accident and the absolute lack of any infection, nothwithstanding the bullet's passing through several layers of dirty clothes. There was a large powder burn on the skin, and the patient confessed, when confronted by this fact and its necessary inference, that the wound was self-inflicted.

35. **Operation in Cancerous Uterus.**—Kelly says that his views in regard to extirpation of cervical cancer have changed somewhat during the past year, and that he now believes that glandular metastases are not so important in mammary cancer or are rare until the later stages. He offers a new method of operation which he details at length. He first insists on catheterization of the ureters. Then, after curetting, he cuts through the vagina on all sides, strips it loose from the bladder, opening the peritoneum as widely as possible. If the bladder is diseased, the base of it may be cut off and left sticking to the cervix. The uterus being attached by its broad ligaments alone, a gauze pack is inserted behind it, while the anterior wall is pulled down with the forceps through the anterior incision,

until the fundus appears at the vaginal outlet. The next step is to bisect the uterus from above downward, and half of it is caught by a stout museau forceps. Catching the cervix of the same side, the body is also completely severed from the cervix by dividing from within outward. As soon as the division is done the uterine vessels are clamped in the exposed cellular tissue and the detached body is pulled farther out, the round ligament clamped and lastly the uterine cornu. In this way one quadrant of the uterus is removed. The same method is followed on the opposite side. The ligatures are then applied in place of the clamps. The ovaries and tubes are removed after the body of the uterus, and it then becomes an easy matter to take out the cervix on the side which is least implicated. Under all circumstances give it the widest possible berth, keeping the rigidly catheterized ureter under touch all the time; three-quarters of the uterus having been removed, the remaining quadrant, that half of the cervix on the side where the infiltration of the broad ligament is most marked, is then extirpated. The operator holds in the grasp of his forceps a small nodule, one-half of the cervix, and the idea is to get it out with perfect control of the vessels, giving it the widest possible berth. This may be done in some cases by ligatures, but it will be better done in the other cases by cautery clamps (Skene's), or by igni-extirpation, as done by Mackenrodt. If the ureter lies clearly beyond the diseased area, and is uninfected, it may be dissected out and left intact. In many cases, however, the operator must not hesitate to cut it off above the diseased area and proceed with wide enucleation of the nodule as if it did not exist. After enucleation the ureter may be turned into the denuded bladder and stitched there. The anterior and posterior peritoneal surfaces are then drawn down and attached to the vagina, and are again sutured together in the middle line so as to leave but two small openings up in the pelvis, which are loosely stuffed with gauze.

36. **Fibroid Tumors.**—Kelly describes two new methods of enucleating complicating fibroid tumors. In the first the large tumor occupies the lower uterine section, elevating the uterus as well as the ovarian vessels and choking the pelvis. He prevents hemorrhage by thrusting two long-jawed pedicle forceps through the capsule of the tumor on each side, at about the level of the round ligament, until the point appears on the posterior surface of the tumor, then clamps powerfully down on the uterine and ovarian vessels. Then pulling the two cornua in opposite directions, he bisects and cuts down into the tumor as far as the vesical peritoneum, which is freed and pushed down; then he enucleates the left and right halves of the tumor by a blunt crenated spatula. The uterine artery is then easily reached and tied at a point below the body of the uterus, then the bed of the tumor closed by buried sutures and the vesical peritoneum drawn over and attached to the posterior peritoneum concealing the wound and the operation finished. "The enucleation of the bisected uterine body may be done after the removal of the tumor in one or two ways—either by tying the ovarian vessels, now easily reached, and the round ligaments and lastly the uterine vessels and then amputating, or by severing first one then the other half of the uterus from the cervix, below, cutting from within outward, from the center of the cervix toward the broad ligament, and so exposing and catching the uterine vessels, after which they are divided and each half is pulled up in turn by its cervical extremity and the round ligaments of the ovarian vessels tied in order. The direction of the enucleation in this case is from below up, the reverse of the direction ordinarily taken; the extirpation in this way is facilitated by the sagittal bisection of the uterus." The second operation, which he has performed but once, is, he thinks, adapted for those cases in which there are dense adhesions of the upper pole of the tumor, which can not be dealt with without great risk by operating from before backward. In this operation he caught up the cervix by short-toothed museau forceps and brought it up within reach. The vesical peritoneum was then detached and pulled down, exposing more of the cervix, which was caught with a second pair of forceps. A knife was then passed through the cervix in the antero-posterior direction between the two pairs of forceps, and the cervix was cautiously divided from side to side, and pulled apart. The cellular tissue to the left was first exposed, the uterine vessels clamped with short, stout forceps, and the right one treated in the same way. The upper forceps was then used to drag up the tumor and the uterine body, rotating them on a transverse axis, first exposing the round ligaments and then the ovarian vessels of the left and right sides, respectively; these structures were clamped and the whole mass disconnected from its pelvic attachments. The tumor now only remained adherent by the dense adhesions at its upper pole. The next step was the rupture of an enormous abscess lying behind it and extending from the center of the tumor into a sac bordered posteriorly by the lumbar vertebræ and above by the mesocolon, and discharging through a large opening into the transverse colon. The tumor now rolled out, being enucleated from behind forward without added injury to the bowel, other than was rendered necessary by the opening into its lumen. The contaminated abdominal cavity and the abscess cavity, containing at least a liter of thick yellow pus, were cleansed, the opening in the bowel sutured and the long abdominal wound closed, leaving a large iodoform gauze drain about the umbilicus into the remainder of the sac under the colon. The patient made an excellent recovery.

38. **Melanosarcoma of the Skin.**—Schalek finds, from an observation and analysis of the literature, that while the final decision as to the histogenesis of melanosarcoma is not easy, it appears that the standpoint taken by Unna and his followers is probably correct. Melanosarcomata of the skin do arise from the pigmented epithelial cells of the epidermis; these cells proliferate into the connective tissue and become entirely detached from the epidermis; still further proliferating, after having been cut off, these cells lose their epithelial character and assume that of ordinary connective tissue elements and that of those particular pigmented cells known as chromatophores. This view, that epithelial cells may undergo such a metaplasia under pathologic conditions, is not at all improbable, since L. Loeb has also stated in another paper that chromatophores of a typical character originate from epithelial cells. Concerning the pigment, we have found that it is finely granular and not very dense in the epithelial cells from which the melanotic tumor arises. The pigment becomes more coarsely granular, the more pigmented cells assume the character of connective tissue cells, more particularly that of chromatophores.

39. **Malignant Tumors.**—The following is the summing up of Buxton's paper: 1. Carcinomas contain connective tissue stroma because there is an attempt at defense on the part of the organism. 2. Their increase is not prevented, because the cells can multiply in the newly-formed lymph spaces of the stroma. 3. Sarcomas, as a rule, contain non-connective tissue stroma, because they consist of the very cells which would be called on to form it, and which are now in revolt. 4. Sarcomas contain numerous blood-vessels, because these always penetrate masses of immature connective tissue cells, whether in the embryo or the adult. 5. Certain sarcomas contain connective tissue stroma because the cells composing them are ordinary connective tissue cells, so that the latter are able to attempt defense. The defense fails for the same reason as it fails in the carcinomas. 6. Tumors containing connective tissue stroma form metastases via lymphatics, because the newly-formed lymph spaces in which their cells are growing open up communications with the regular lymphatic channels. 7. Tumors containing no connective tissue stroma form metastases via the blood-vessels, because the cells can easily break through the immature walls, while lymph spaces are absent.

44. **Rhinitis Due to Tooth in Nasal Cavity.**—Dupuy reports a case of purulent rhinitis the source of which was finally discovered to be a carious tooth growing in the nasal cavity. The only case in literature which he has found similar to this was that of Tyler, which was a supernumerary tooth, while in this case it was a misplaced one.

48.—This paper appeared elsewhere: See abstract in THE JOURNAL of Oct. 21, 1899, ¶ 68, p. 1033.

51. **Medical Science of the Talmud.**—Imber claims that the Talmud anticipated the discovery of many valuable methods

and hygienic facts. It ascribes all diseases to certain little dangerous ones which it calls "shedins"—destroyers. In accordance with this bacilli theory the following hygienic laws were enacted: "1. If an animal was killed, the Talmud urges, under certain penalty, to cover its blood with the dust of the ground or with ashes. (As it has been proven that the belly of mother earth is the best of bacilli destroyers.) 2. No Jew was allowed to wear hide in its raw state as a garment. 3. No tannery was allowed to be established, except two miles from the city and not on the east side, for the wave in the Orient was mostly easterly winds. 4. No spitting was allowed in the city of Jerusalem. (Our moderns have realized the danger 2000 years later.) 5. Four cubits of space shall be allotted to each person in a room. (Our modern board of health of course ignores that law and the tenement houses in the big cities have not a yard to spare for a person.) 6. To beware of flies of lepers, as they are transmitters of the disease. (In perfect harmony with views of modern science.) 7. To investigate every slaughtered animal, if it had not a lung or liver trouble. (If our inspectors sent out by the 'board of health' to investigate the slaughter houses would observe that law, the Christian people would enjoy the sanitary benefit which the orthodox Jew enjoys in regard to health.) 8. To throw out the water where a person just died, and destroy all his clothes. (That law was most beneficial to the human race, and I think, if the board of health should take it into consideration, they will not give a permit to the second hand clothes dealers until their goods were disinfected.)"

53. **Incurability of Leprosy.**—Ashmead reviews and discusses the cases of reported cure of leprosy, and finds that with no case was there more than temporary relief of symptoms. He is especially critical of Dyer of New Orleans, and his views as to the possibility of the cure of this disease.

57. **Strangulated Hernia.**—The frequency of this accident renders it a part of the experience of almost every general practitioner. Wahrer therefore insists on the necessity of the physician being able to operate; in many cases the question of prompt operation is one of life or death; the patient has everything to gain by it, as it may save his life, and otherwise he will surely die. He advises the physician who has such a case to call in the assistance of a neighboring practitioner, or two are better, and to follow the following technique: Wash the patient clean, shave off all hair over and near the site of the operation, wash the hands clean, boil the instruments—in a bread pan if there is no regular one in the surgeon's outfit—in a solution of soda, then spread a boiled towel over a small table and lay the instruments on it—if the towel is wrung out of a 5 per cent. creolin solution so much the better. The patient is placed on a kitchen table, and when he is under the anesthetic an incision is made through the skin and fat in a semicircular line, the convex side toward the umbilicus, then through the three layers of muscles. The sac of the hernia is then followed down to the ring and an incision made large enough to enable return of the bowel. The sac is drawn out as far as possible, tied off with a stout catgut, or better a kangaroo tendon, and in a similar manner, any redundant mass of omentum cut off, dropping both stumps back into the abdomen. One must carefully avoid including the cord in the ligations or the coverings, and sew up the peritoneum with catgut, also the three layers of muscles, lastly the skin with catgut, silkworm gut or silk—which is better. Over the wound gauze is applied, a good layer of absorbent cotton over that, and it is secured with adhesive strap or bandages and the patient put to bed. He says expert surgeons must not criticize him for this unrefined technique and gives also in detail the directions for antisepsis. The instruments are simple and inexpensive. As regards antisepsis, he says: "Get a bread pan or two, put your instruments and needles into one of them, some boiled water in the other; it does not matter if you put any drugs in as antiseptics or not, so you have things clean. Wash your hands, if you have nothing better, in boiled water and soap, then more water and soap, then some more water and soap. Keep this up for fifteen or twenty minutes and your hands will be as clean as those of Lawson Tait." Avoid rough and useless effort at taxis and rough handling of the bowels and avoid rough handling of the cord.

60.—See abstract in The Journal of March 17, p. 688.

69. **Ureteral Fistulae.**—Bullock reports a case of ureteral fistula which seems to have been caused by an infected ligature in close proximity to the ureter, producing ulceration. The tumor opened externally through the inguinal opening, and is now nearly closed.

70. **Nitrous Oxid.**—After giving the chemistry of the drug, Grant describes the methods of its use. The known rules in anesthesia should not be overlooked with this anesthetic. An empty stomach need not be insisted on, but it should not be distended. The sitting posture for short operations may be maintained throughout, and the head should be bent forward rather than backward as there is less danger of the tongue falling back. All foreign substances should be removed from the mouth, such as plates, etc. A prop should be placed between the teeth. The first impression on the patient is a sweetish taste of the gas and a certain sense of oppression. In the second stage there is a tingling sensation and consciousness is lost, and the narcosis deepens into the third or anesthetic stage. The circulatory system is but little disturbed, but the respiratory is more affected and the physical indications are those of asphyxia. Then the anesthetic is profound enough for minor surgery, and the inhaler should be withdrawn and the operation performed. The hemorrhage following the use of nitrous oxid is generally venous and may be profuse an hour or more after extraction. Recovery is usually rapid. The dangers are through the respiratory function, and intensified lividity of the face, great and sudden pallor, and cessation of respiration must be regarded as symptoms thereof. The secondary effects of nitrous oxid are trivial; there is no proof of secondary serious complications.

71. **Lobar Pneumonia.**—The treatment of lobar pneumonia, acording to Venable, is first, proper feeding, milk diet, meat broth, etc., with stronger and more soluble foods after the crisis is past. Cardiac stimulants should be used when the first signs of heart failure appear. He employs alcoholics in this case, in moderate doses. In an urgent need he uses strychnia, hypodermically. Like strychnia, digitalis may be valuable —10 minims of the tincture every three or four hours. Nitroglycerin is an excellent adjuvant and useful when renal secretion is scanty. Aromatic spirits of ammonia is an excellent cardiac stimulant in the feeble heart in pneumonia. Beginning cyanosis is a signal for the use of respiratory stimulants, oxygen by inhalation, strychnia and atropia. Hydrotherapy is useful and he relies mainly on cold sponging, but pays little attention to temperature unless above 104 F. If he were to give antiseptics, he would use carbolic acid, 1 minim, or thymol 2 to 3 gr., or mercuric chlorid 1-1000 every four hours. Morphin will do for the initial pain, but it is rarely necessary to continue it after the second or third day. Internal antipyretics are not desirable, and arterial sedatives should also be used sparingly and their effects watched. Nervous symptoms are usually met successfully with bath and the ice-cap, and sometimes in the advanced stages stimulant expectorants may be used, though they are generally useless.

73. **Anesthesia.**—Chloroform and ether are the anesthetics generally used. In this article Guest gives the indications as regards chloroform. He first insists on buying only small bottles, two ounces or less, as the drug is then fresher and better. He has a careful uranalysis made a few days before operation, with a warm bath and moderate supper the night before. If the patient is constipated he gives a cathartic two days before, otherwise a saline only, followed by an enema the next morning. A cup of coffee, tea, milk or water may be given three hours before. If the patient is not desperately ill, no drug should be given before operation. He never gives morphin or atropin before giving an anesthetic, as this takes away the pupil reaction, which is one of the first warning signs. He finds the Esmarch drop-bottle the best method. He warns the patient to expect a choking sensation, and, starting with only a few drops, he gradually increases this until surgical anesthesia is accomplished, then very much less will be re-

quired to maintain it. After the incision is made in abdominal surgery, he uses the lightest possible anesthesia. He thinks there is not much choice as to position, but there is much danger in change of position during anesthesia. It is better not to crowd the chloroform during the stage of excitement, and there is no necessity of touching the conjunctiva to produce the conjunctival reflex. If the eye does not rotate by exposing it to the air, it is a safe rule to withdraw the anesthesia for a few seconds. We should be sure never to miss a heart beat or lose a respiration. No anesthesia should be continued if the pupils commence to dilate after the patient is well under its influence. Before commencing, he rubs the lobe of the ear gently between the fingers and watches the capillary circulation. He repeats this every few minutes and, if the circulation falls. the patient is sinking and requires a hypodermic of nitroglycerin, or digitalin, 1-100 gr., repeated in ten minutes if needed. It is difficult to tell by the breathing whether the patient is taking the anesthesia well. When he can distinguish laryngeal stertor, he throws aside the anesthetic and extends the head and neck pushing the inferior maxilla forward. The most alarming symptom is when the breathing is irregular and spasmodic. He then stops at once and resorts to respiratory stimulants hypodermically, and by inhalation. Warning is given that abdominal breathing is not a constant sign that air is entering the lungs. One of the best and most accurate signs is the circulation. When the pulse commences to lose its *vis a tergo*, the finger on the temporal artery is sure to note it. There is a steady lowering of the arterial pressure beginning and ending with chloroform inhalation.

76. **Typhoid Fever.**—Dock is not prepared to say positively that typhoid fever is specific in the sense that it is caused by a germ of unvarying characteristics. The question also as to whether it is always derived from a previous case he also considers still unsettled, though this may not affect the practical point of avoiding contagion or infection. He also speaks with doubt in regard to its pathology. The fact that we find very few germs in the first stages of the disease is an important one in this regard. Whether the treatment directed to destruction of the typhoid bacilli in the intestinal canal is of great value is also doubtful, but he does think that clinical experience shows some advantage in intestinal antisepsis. It is useful to give a cathartic in the beginning of the treatment, and the choice is calomel, though castor-oil appears to be equally effective. During the course of the disease enemata will generally serve the purpose, and in convalescence the febrile rises will also be found connected with constipation. The general infection of the system is not parallel in all cases, but that it is extensive is indicated, among other things, by the recent discovery in regard to bacteriuria. Elevation of the body temperature is only a part of the fever and secondary infections may be a possible cause. The belief held by some that elevation of temperature is a salutary process, he thinks can not be maintained. The good effects of the cold bath treatment are not exclusively in its effects on temperature, and its effect in producing diuresis is one of the most important points in the treatment. We must remember, however, that the mortality is now lower than at any former period, and this may be partly due to more comprehensive diagnosis. Dock believes in the modified diet instead of the exclusively liquid one generally recommended, but the excretions must be carefully watched to see that what is taken is fairly digested. As regards medicines, he uses none except for special symptoms, the rare exceptions are stimulants, such as strychnin, and in less marked indications coffee; he has entirely abandoned alcoholics.

77. **Pulmonary Consumption.**—Flintermann reviews the facts in regard to the contagiousness and infectiveness of tuberculosis, and lays down rules for its prevention. Non-expectoration except in special receptacles, thorough cleanliness of rooms where numbers are gathered together, and sanitary inspection of homes. Tuberculous patients should be excluded from public hospitals and sanitaria and treated in special ones. Dispensaries are dangerous: public laboratories should be provided for the examination of sputa, etc. The dangers of bovine and milk tuberculosis are also mentioned, but he objects to compulsory notification of cases as useless and cruel.

78. **Early Diagnosis and Treatment of Phthisis.**—Duffield says that statistics prove that 60 per cent. of mankind are affected with tuberculosis, and its death-rate is actually from 15 to 18 per cent. He calls attention to certain early symptoms, such as the facial expression, inspection of the chest, scars of old strumous abscesses, physical signs, necessity of attention to the temperature and pulse, small rapid pulse in the young frequently being an early symptom. A large part of his paper is devoted to the treatment by tuberculin, or rather the watery extract of tubercle bacilli of von Ruck, which he thinks is of decided value. He has had twenty patients under treatment in the past fourteen months, and in all there is a marked improvement. He starts the treatment by giving .1 c.c. of Solution No. 1, containing .01 of 1 per cent. of solid extract free from water. He first administers .1 c.c., increasing every day or two until .5 c.c. is taken, then gradually increasing this until 1 c.c. is reached. The injection is made in the loose skin between the shoulder blades. After 1 c.c. is reached, it is continued for about a month, and then he takes Solution No. 10, which is ten times as strong, and, starting with .1 of 1 per cent. increases it by 1-20 until .5 c.c. is reached.

79. **Intestinal Wounds.**—Several cases of injuries of the intestines are reported by Wyman, and in conclusion he summarizes as follows: 1. A wound of the portal vein should be treated by ligation and suture of a part of the omentum to the peritoneum, so that collateral circulation can take place. To do this the free border of the omentum is dragged into the wound made to open the abdomen, and by intercepted sutures fastened to the margins of the peritoneum. 2. Hemorrhage from liver wounds, if not involving large arteries, may be controlled by gauze packing. Arteries may be controlled by cautery, clamp, forceps or ligature. 3. An effort must be made to preserve the contents of a wounded uterus. A temporary urinary fistula must be provided when the ureter or kidney is wounded.

81. **Cleanliness in Minor Gynecology.**—Skene insists on the importance of the utmost cleanliness in minor gynecology. It is far from easy to keep all the instruments and appliances surgically clean in ordinary office practice. On this account he has adopted the following method: Sterilized cotton kept in a clean vessel is used for sponges and thrown away afterward; wool is resterilized before use; pessaries, hard and soft rubber, are sterilized before using, as are also specula, sounds, forceps, etc., when they are applied in cases suspected of being septic or specifically contaminated. Instruments used in cases free from septic or specific contamination are simply washed in boiling water and dried with a sterilized towel. Vaselin is sterilized by heat and applied with a sterilized paint-brush, and sterilized rubber gloves, disinfected each time after use, are employed in digital examinations. In order to insure great cleanliness he uses liquid soap discharged from the lower end of the soap bottle by a movable valve-stopper and running water for ordinary washing. He thinks the steam sterilizer has given him the most satisfaction for the sterilization of gauze, pessaries and towels. Instruments are kept in a sterilized towel, which he thinks is as advantageous as having them put in an antiseptic solution. For surgical cleanliness of the hands he uses a solution of carbolic acid, glycerin and water—5 per cent. of the acid and 25 of the glycerin. In conclusion he cautions about handling money, and he now picks up his fees with a forceps, drops them in a money box, and at the close of a day disinfects them at the same time his instruments are cleaned.

87.—This paper has appeared elsewhere. See THE JOURNAL of March 3, title 176, p. 549.

88.—See abstract in THE JOURNAL of Oct. 28,1899, p. 1104.

90. **Vaccination.**—Engelhardt reviews the statistics of vaccination. He doubts the existence of natural immunity. The length of immunity against natural infection is longer than that against vaccination. Scars are not reliable indications as to immunity. The only way to insure this is to be re-

vaccinated over and over again. As regards the time of vaccination, he thinks the hot months are most liable to produce complications. The infant is best vaccinated when it is from four to six months old.

91. **Scalp Wounds.**—Fowler notices the common statement in text-books, as to the refractory character of scalp wounds, and gives his experience, which is against this. He thinks the method of using hair to secure the edges of the wound pretty sure to bring on suppuration, and plaster is almost as bad. His own method is to shave away the hair for about one-half inch along each side of the wound, thoroughly cleanse it with warm carbolized water and close the wound with silk sutures, spray and seal with absorbent cotton, and collodion with .1 per cent. iodoform. The sutures should be inserted at least one-fourth inch away from the wound, as too close insertion in the dense tissue of the scalp may cause necrosis.

92. **Electricity and Gynecology.**—Grace considers electricity the most effective remedy in postpuerperal metritis. It is of value in uterine engorgement, in amenorrhea and scanty menstruation, especially in cases caused by constipation, dysmenorrhea and menorrhagia.

FOREIGN.

British Medical Journal, April 14.

Non-Diabetic Glycosuria. ROBERT SAUNDBY.—The occurrence and significance of glycosuria is discussed, and Saundby notices the pseudoglycosuria, where the copper reaction occurs, but which is prevented by repeated filtration through animal charcoal, which removes other reducing substances than sugar. The alimentary and physiologic glycosuria is also noted, and in some cases it may be rather persistent, according to the cases he reports. The other forms mentioned are alcoholic, hepatic, gastric, neurasthenic, and senile glycosuria. In many of these forms, however, there may be an alcoholic factor not given in the history. The author is inclined to think, however, that in many cases there is a disturbance of the liver that is not detected. Senile glycosuria is a symptom of the general tendency to break down, and care must be exercised in ordering strict diabetic diet. The object of his paper, in noticing these different forms of glycosuria, is to call attention to the conditions under which these symptoms may occur, so that the practitioner when meeting it may properly value it and possibly avoid serious errors in diagnosis.

Some Cirrhoses of the Liver. W. B. CHEADLE.—This author briefly mentions the drug treatment, three drugs being more reliable than all others, viz., mercury, potassium iodid and digitalis, the former two in cases with specific complication, the latter in those numerous instances where there is weakness of the heart. He condemns the use of purgatives as a pernicious and fatal practice, and diuretics as of little value. In some cases the limitation of fluids may be of use, but the only reliable way of relieving the condition of ascites is by paracentesis, and the earlier this is performed the safer it is as a rule. He also believes that in the majority of cases cardiac insufficiency, though it may be unrecognizable by the usual physical signs, is a factor in the causation of the more acute cirrhosis of the large alcoholic liver and its accompanying ascites.

The Lancet, April 14.

Typhoid Bacillus and Typhoid Fever. P. HORTON-SMITH.—This lecture by Horton-Smith deals with the Widal reaction. He points out that as the result of investigations by Gruber and Durham, as well as by Widal, credit belongs to three countries, Germany and England as well as France. The dilution to be used, the time limit and culture are discussed, and he thinks the facts show that 1/20 dilution with the time limit of one hour is a reliable standard. If the serum would suggest typhoid fever, producing clumping of the bacillus within one hour with a dilution of 1/20, it can rarely be due to the presence of Gaertner's bacillus or any other than the typhoid. In rare cases the test may be at fault, but the proportion is very small, not over 3 per cent. As to the nature of the agglutinating substance, he thinks the evidence points strongly to the view that the agglutinins are ferments not directly secreted by the bacilli themselves, but produced by the cells of the body and especially those of the spleen, lymph glands, and bone marrow, under the influence of stimulus produced by invading micro-organisms. The agglutination is a reaction of infection, but Horton-Smith does not fully accept the opinion of Emmerich and Loew that it has a connection with immunity. If this is possible, he says that if we picture to ourselves the delicate changes which occur in the blood of a patient during the course of typhoid fever, we should say that very early in the disease, as a rule during the commencement of the second week, agglutinative properties are in general acquired. But the date at which the agglutinins appear, the amount in which they may be present, and the length of time during which they persist are subject to extraordinary variations. The reaction is undoubtedly one of infection ,and its connection with immunity, though probable, has not as yet been proved. A little later in the disease bacteriolytic properties make their appearance, and with the gradual increase in their amount the further growth of the bacilli in the body is checked, and finally the latter are gradually digested and destroyed. But even now the disease is not quite at an end, for the toxins set free by the destruction of the bacilli have first to be dealt with. In part they may be neutralized by antitoxins, but of this we have as yet no direct evidence; in part they are probably excreted by the usual channels and thus eliminated from the body. In conclusion he calls attention to the methods of preventive inoculation, the results of which are encouraging.

Plague Viewed From Several Aspects. W. J. SIMPSON.—After noticing the history of the plague, Simpson says there are no productive localities, where it could be said to always exist, neither is it confined to low marshy regions. The present endemic center, Yunnan, China, is 5000 to 7000 feet above the sea. The general mildness of the plague in many places is not to be trusted in, as the ordinary behavior of plague in new localities is slow and insidious. In Calcutta it has existed since 1896, but it is only now that it is beginning to be an epidemic. He thinks the danger of infection from rats a real one, and calls attention to the special danger during the early and late stage of the disease for other countries. The symptoms and treatment are reviewed, and he thinks the only rational treatment is neutralization of the toxins and destruction of the germs The results so far with the protective curative serum are at least encouraging, and for preventive measures Haffkine's plague prophylactic is of the greatest importance.

Experiments on Intestinal Suture. WALTER EDMUNDS AND EWEN C. STABB.—These authors experimented with the following methods: Halsted's inflated rubber cylinder, Murphy's button and Laplace's forceps, each on seven dogs, and, as far as actual results go, the verdict is in favor of Halsted's cylinders. Their effect is to push back the mucous membrane, which otherwise always everts itself so much as to materially interfere with the suturing of the outer coats and the adaptation of the peritoneal surfaces. The cylinder also prevents the escape of the intestinal contents. They do not think the Murphy button entirely trustworthy without the external suturing, which they did not use in their experiments, and they do not recommend Laplace's forceps. In the seven dogs in which the Halsted cylinder was used, the intestines united circularly in all and the animals recovered. With the Murphy button without sutures, only five were successful, and of the seven with Laplace's forceps, four succeeded; all failures were due to non-union. They do not think the difference in the intestinal muscular coats in man and dogs invalidates their conclusions.

Presse Medicale (Paris), March 31, April 4 and 11.

Alcohol in France and Germany. DE LAVARENNE.—"France produces 311,952 hectoliters of alcohol a year, an increase of 282,760 in thirty years, and, with the colonies, drinks nearly all of this amount, which includes 192,866 hectoliters of absinthe. Germany produces much more alcohol than this, about 800,000 hectoliters more than France in 1897, and has 12,500 distilleries for the production of alcohol from potatoes alone. Part of this alcohol is exported. Part is consumed in heating and lighting, and part has contributed to the great development of chemical industries in Germany. The Germans took coal and combining it with alcohol, changed it into gold." The world has been flooded since with German anilins, antipyrins, benzins, etc. The exports of chemical products amounted to $80,000,000 in 1897.

At What Age is Syphilis Contracted? E. FOURNIER.—Investigation of 11,000 private and over 5000 hospital patients, reported in this communication, strikingly confirms the assertion that syphilis is usually contracted very young. In men, by far the largest percentage is during the twenty-third year; earlier in the lower than in the middle classes. Among women the overwhelmingly largest percentage occurs between 19 and 21, on an average, but among girls of the lower classes between 16 and 20, and among prostitutes primary contagion is less frequent after 23 than before 15 years of age. Prostitutes over 23 seldom present the manifestations of primary syphilis, as they are usually past at that age. The figures show that 14 to 20 out of every 100 male syphilitics are infected while still minors, and the proportion is much larger among the females: in private practice, 31 out of every 100; in the hospitals, 48, and among prostitutes, 63, were infected with syphilis while they were still minors. The importance of protecting young girls is emphasized by these facts, and also the exceptionally great danger of contagion from young prostitutes.

Insomnia Due to Disturbances in Ocular Refraction. A. TROUSSEAU.—Ocular disturbances should be thought of when a young person is affected with insomnia at a period of excessive studying or other exertion, with headache on waking and better sleep after days of comparative rest of the eyes, as on Sundays. Trousseau relates a number of instances in which the patients had applied to physicians and neurologists in vain, and were finally cured in a few hours with appropriate eyeglasses.

Prophylaxis of Rheumatismal Endocarditis. E. BARIÉ.—Observations have been reported of the invasion of the heart by the rheumatism several days before the joints were affected, but they are rare. In such cases sodium salicylate is not given until the pains appear, and consequently its action on the heart is less than when given before the endocarditis occurs. Barié attributes the effect of the salicylate to its analgesic and antithermic action. As a prophylactic of endocarditis, he approves of doses of 4 to 5 gm. a day at intervals during the twenty-four hours, as long as the pains last, and 3 gm. for a week afterward. But his first choice is for an iodid medication, to prevent or check endocarditis under these circumstances. Sodium iodid with superalimentation and rest in bed, to prevent overexertion of the heart, has proved extremely successful in Potain's experience in arresting the affection, curing it completely in several cases. Recovery is most frequent in children.

Technique of Pylorectomy. H. HARTMANN.—The extensive experience of the writer has shown that cancer of the pylorus has very little tendency to extend toward the duodenum, probably on account of the lack of continuity between the submucosa of the stomach and of the intestine, which he has established, but is apt to invade the lesser curvature, and especially the ganglia in this direction. He first exposes the posterior surface of the stomach. The lesser omentum can be slit for this purpose without fear of hemorrhage—in the avascular middle portion. The great omentum should be opened close to the stomach, at the point where the incision is to be made, allowing access to the posterior cavity without danger of injury to the transverse mesocolon. The liver is drawn out of the way and the stomach pulled out to expose the coronary, which is ligated and cut. The viscus is then held with forceps as near the cardia as possible, and almost the entire lesser curvature is removed, leaving only the large expansion and a portion of the greater curvature. The gastroduodenal artery is then easily exposed and ligated in the angle between the first portion of the duodenum and pancreas. The operation is completed by freeing the pylorus, cutting the great omentum which holds it, and at quite a distance from the stomach, in order to remove with the tumor the subpyloric and retropyloric ganglia. After ligature of the gastro-duodenal artery these ganglia can be detached from the pancreas without hemorrhage, which is almost certain in operating by other methods.

Deutsche Medicinische Wochenschrift (Leipsic), March 29.

Treatment of Hemorrhages from Uterus. H. OSTERMANN.—Hemorrhage occurring with complicated endometritis is very difficult to cure; internal medication is apt to derange the digestive apparatus and local cauterization aggravates the endometritis. Ostermann announces that he has been unfailingly successful in curing these and all cases of uterine hemorrhages, aside from the puerperal, by the simple method of hot local applications of a mixture of equal parts of antipyrin and salol after the uterus has been wiped out dry. It is applied on cotton wrapped on an aluminum rod; the inner surface of the uterus smeared with the syrup-like fluid. Thirty observations are described, showing the great variety of uterine hemorrhagic affections amenable to treatment by this means. A large number were definitely cured by one application; others required two more at intervals of three to five days.

Medical Experiences in Arctic Regions. B. RAWITZ.—During the first part of Rawitz's stay on Baereninsel, the air was extremely dry; fish, meat, etc., dried in the open air very rapidly, and without a trace of decomposition. The men in the expedition were all robust, and their numerous scratches and other injuries, acquired in fishing and oil-trying, did not show a trace of suppuration, but neither did they heal. All had a red, dry surface, with healthy granulations, but no tendency to cicatrization. A long period of foggy weather followed and all the wounds began to suppurate violently, although the lesions were much less severe than at first, as the men had become more skillful in their work. As soon as the pus was evacuated, however, remarkably rapid healing followed. This absence of healing in aseptic conditions and the rapid healing when the air became septic, as manifested by the invariable suppuration, suggest to Rawitz that there may be some still unknown factor in healing processes, which bacteriology has failed to elucidate. He describes the cod-liver oil industry and states that the oil is mixed with that from the livers of other fish besides the cod, in many instances. It is derived from the livers by the cold process, that is, a keg is filled with the livers and left for three weeks, by which time the oil has been drained out without other heat than the sun, which shines day and night. The livers show no indication of decomposition. Oil drained by steaming the livers is of a poorer quality.

Muenchener Medicinische Wochenschrift, April 10.

Transplantations of Tendons Into Periosteum for Paralysis. F. LANGE.—Vulpius has a record of 80 transplantations, and Lange has performed the operation fifty times, but he modifies the usual method by implanting the tendon of the paralyzed muscle in the periosteum. A new muscle is made by combining paralyzed and sound muscle, and it is connected directly with the bone by implanting the tendon in the periosteum at any convenient point. The tendon is lengthened, if necessary, by cutting it in steps (Bayer), and shortened by running a thread lengthwise through it, doubling on itself like a hairpin; when the ends are drawn up tight, the tendon is made shorter and wider as it crinkles. The principal advantage of this method is the solidity of the result, as it is unnecessary to use an atrophied tendon, and also the latitude it allows the surgeon in locating the transplantation. Observations are described and illustrated showing the fine results attained in cases of a paralyzed hand, foot, knee or hip-joint. In the latter case the biceps and semitendinosus are united to the anterior surface of the femur, but as there is no tendon that can be utilized, an artificial one is supplied, made of strong silk braided in with the fibers of the muscles and brought down to the periosteum of the femur. It has filled in with connective tissue, in his three cases, and is now, after six months, the diameter of a pencil in one. In another the length of the artificial tendon was 15 cm. He considers tendon transplantation for paralysis, especially in children, and the use of the solid, light, inexpensive and durable orthopedic apparatus now made of celluloid, stiffened with steel wire, wonderful progress in the domain of orthopedics.

Asepsis Contra Antisepsis. O. LANZ.—Our instruments and dressings can be considered aseptic after the usual heat sterilization, but the patient's skin, the surgeon's hands and the ligatures are still dubious links in the chain. Lanz has for years been using a receptacle for ligature silk, which he urgently recommends to insure against thread abscesses, while it saves silk and is extremely convenient in every way. The silk is wound in a loose oval ball, and placed in a glass or porcelain shell like a capsule, with a hole at each end for the thread. There are three holes near the edge of each half, allowing free access to the fluid, while by pressing the halves closer together these openings are closed. The silk nut, as he calls it, is sterilized with steam under pressure for a short time, and then boiled for a minute in sublimate, after being treated with ether and alcohol. It it then placed in a glass vessel with a overhanging telescope cover. This receptacle spreads out above the nut into a second wider chamber, and the lower, holding the nut, is closed with a watch-glass with a hole in the middle for the silk. The receptacle is filled with a solution of sublimate in which the end of the silk rests. He indorses Kocher's advice to scab over with iodin at once, even the slightest erosion. He also recommends disinfecting the hands immediately after any septic contact, as if for an immediate aseptic operation, to prevent the germs gaining access to the nails, etc.

Restriction of Aseptic Field in Operations. G. Walcher.—It is a great mistake, Walcher thinks, to train young surgeons in the idea that expensive aseptic operating-rooms are necessary, as few are able to meet with similar conditions in their practice. He thinks that asepsis should be absolute, but limited to a small area, and outside of this area everything be considered dangerous. For a laparotomy, for instance, in his clinic or maternity, the table is covered with a clean sheet, and after the abdomen has been shaved and thoroughly disinfected with soap, ether and sublimate, the limbs are covered with towels lying in sublimate solution, as far as the mons veneris, and the trunk from the stomach down to the umbilicus, all fastened with aseptic safety-pins. This area alone is considered aseptic, with the hands and forearms of the operators and three dishes holding the instruments, dressings and sponges in a sublimate solution. Everything else, aprons, tables, napkins, etc., although clean, are yet considered septic, and any contact with them requires new disinfection. If a thread hits against anything in being handed over, it is thrown away and a fresh one substituted. The results of this restricted aseptic area seem to be highly satisfactory as only one death from sepsis has occurred in 8000 deliveries, and only two in the last 100 laparotomies, and in both of the latter there was preexistent infection.

Surgical Suture and Ligature Material. H. Braun.—The chief point in this communication is the author's recommendation of "collodion thread," that is, thread rendered impermeable for secretions and bacteria by being soaked in collodion. It has all the advantages of celluloid thread without its disadvantages.

The Catgut Question. C. Lauenstein.—The seven principal methods of rendering catgut aseptic are described and compared, and Lauenstein considers that each is able to guarantee absolutely germ-free catgut. If infection occurs when catgut thus prepared is used, it must be attributed to secondary infection, either from the air or hands of the operator or from the skin or mucosa of the patient. For this reason each individual case must be studied to determine the most advantageous and appropriate manner of using the catgut in each instance. It seems perfectly rational from the practical as well as the theoretical point of view, to impart antiseptic properties to the catgut. The demonstrated possibility of rendering catgut absolutely aseptic, combined with its absorbability, ensure it the highest place in the equipment of the surgeon. It can only be surpassed by the discovery of an absorbable thread that does not swell in the living tissues nor offer a favorable soil for the development of microbes.

Pocket Sterilizer. Bofinger.—A zinc box, 17½ by 9½ by 4 cm., holds the instruments usually necessary, in a folding duck case in the lid. The perforated trays hold a bottle for alcohol, and two small square alcohol lamps, with other compartments for syringe, etc. The legs are folded against the side when not in use. The instruments, etc., can be sterilized in the steam or laid directly in the boiling water in the bottom of the box, which boils in five minutes over the two lamps. With an ample supply of instruments the total weight of the box is about 2 1/5 pounds.

St. Petersburger Medicinische Wochenschrift, April 7.

Bacillus of Whooping-Cough. A. Ucke.—Reviewing the various communications that have been made in regard to the causal agent of whooping-cough, Ucke concludes that the majority of the authors, Czaplewski and others, have described one and the same bacillus, a very small rod with swollen ends, which can easily be mistaken for a diplococcus. Found in large amounts in fresh sputum, it may assist in differentiating the affection.

Gazzetta degli Ospedali (Milan), April 8 and 17.

Morphologic Modifications of Koch Bacillus; Their Prognostic Significance. S. Mircoli.—A number of experiences are related in detail, showing that in cases of latent tuberculosis and cases improved with serotherapy, the tubercle bacillus changed its shape and simulated the streptococcus in appearance, both in the clinic and in experimental research. The author concludes that these "streptococciform modifications" indicate a more favorable prognosis, as they are evidences of attenuated virulence. The chief modification is in the length; the bacillus becomes two, four or eight times its typical length, stretching out thin and long, and also shows granulations.

Circular Suture of Arteries by Direct Coaptation of Endothelium. A. Salomoni.—The intima of each stump is exposed and the two parts brought together, with temporary hemostasis with fingers or forceps. The stumps are then sutured together with very fine silk, in a "knotted suture" including the entire thickness of the walls of the vessel. In a dog killed eighteen days after the abdominal aorta had been sutured in this way, the artery was found practically normal in every respect. The suture healed over with no contraction of the lumen of the vessel. "Coaptation of endothelial portions of the stumps prevents the formation of fibrinous deposits and ensures adhesion with the caliber of the vessel unaffected."

Case of Tabes Consecutive to Trauma. E. Gaspardi.—This is a typical observation of locomotor ataxia developing a few months after a stab wound in the brachial plexus, in a young man with no venereal history nor heredity, always very robust. The symptoms were particularly pronounced on the side of the lesion.

Action of Chloroform on the Blood. V. Baccarini.—In the summary of this report of extensive experimental research the writer asserts that chloroform has an intense hemoglobinolytic action, also a cytolytic, but less pronounced, and it diminishes the respiratory capacity of the red corpuscles. The latter die sooner and in greater numbers than normally, especially the young corpuscles. This action lasts from a few hours to a few days, and is more pronounced as the narcosis is longer and deeper. Not all the modifications noted are to be ascribed directly to the chloroform, but rather to a circulus vitiosus, which it establishes.

Differences Between Pathogenic Action of Behring's and Tizzoni's Tetanus Toxin. G. Tizzoni.—First establishing that every tetanus toxin rapidly deteriorates with age, which accounts for the contradictory results obtained by different investigators, Tizzoni shows that there are evidently substantial differences in the constitution of his and Behring's toxin. The pathogenic action of his toxin is 3/5 that of Behring's in animals most sensitive to it—guinea-pigs—and 166 times as toxic for less susceptible ones—rabbits.

The Bicycle and Insanity. C. Lombroso.—As the result of extensive research Lombroso announces his conviction that the introduction of the bicycle has materially increased the number and the causes of cases of insanity. He admits that it has added much to the pleasures of life and put an end to the isolation of remote hamlets and farms, but at the same time its criminal influence is so great that the old formula: "look for the woman," should be changed to "look for the bicycle," in the majority of cases.

Societies.

COMING MEETINGS.

American Medical Association, Atlantic City, N. J., June 5-8.

Illinois State Medical Society, Springfield, May 15-17.

American Pediatric Association, Washington, D. C., May 7-9.

Ohio State Pediatric Society, Columbus, May 8.

Nebraska State Medical Society, Omaha, May 8-10.

Washington State Medical Society, Spokane, May 8-9.

Oklahoma Territory Medical Society, Oklahoma City, May 9.

Ohio State Medical Society, Columbus, May 9-11.

Kentucky State Medical Society, Georgetown, May 9-11.

Medical Association of State of Missouri, Mexico, May 15-17.

Medical Association of Montana, Butte, May 16.

Iowa State Medical Society, Des Moines, May 16-18.

Arkansas Medical Society, Jonesboro, May 14-16.

American Medico-Psychological Association, Richmond, Va., May 22-25.

Connecticut State Medical Society, New Haven, May 23-24.

Association of Military Surgeons of the United States, New York City, May 31 to June 2.

American Laryngological, Rhinological and Otological Society, Philadelphia, May 31, June 1 and 2.

North Dakota State Medical Society, Grand Forks, May 23-24.

Indiana State Medical Society, Anderson, May 24-25.

New Hampshire Medical Society, Concord, May 31 and June 1.

New York County Medical Association.—Dr. Charles E. Denison has been made treasurer, and Dr. J. W. Draper Maury, corresponding secretary of the Association.

Paducah Medical and Surgical Society.—The annual election of officers for this Society occurred at a recent meeting held in Paducah, Ky., resulting as follows: president, J. D. Robertson; secretary, J. E. Caldwell; treasurer, Horace Rivers.

Erie County Medical Society.—Officers were elected as follows, at the April session of this Society, held in Sandusky, Ohio: president, Charles Graefe; first vice-president, E. Stanley; second vice-president, M. J. Love; secretary and treasurer, H. C. Schoepfle.

Tolland County Medical Association.—The annual meeting of this Connecticut organization was held April 17, in Rockville. Following are the newly-elected officers: president, F. L. Smith, Stafford Springs; vice-president, T. F. O'Laughlin, Rockville; clerk, E. T. Davis, Ellington.

Windham County Medical Association.—This Association's 107th annual meeting was held at Norwich, Conn., April 12. The following are the newly-elected officers: president, S. B. Overlock, Pomfret; vice-president, Laura H. Hills, Willimantic; clerk and treasurer, James L. Gardner, Plainfield.

Medical Association of District of Columbia.—At the recent meeting of the standing committee of this Association, Washington, D. C., Dr. G. S. McLean was elected president and Dr. Clifton Mayfield secretary. The committee will continue its efforts, begun last year, to enforce the strict observance of the medical practice act of the District.

Austin Flint Medical Society.—The annual meeting of this Society was held in Waverly, Iowa, recently, and the following officers elected for the ensuing year: president W. A. Rohlf; vice-president, G. W. Appleby; secretary and treasurer, J. C. Powers of Hampton. Clear Lake was chosen as the place for the next meeting, to be held in July.

Conference of Health Officers.—The tenth annual conference of Indiana health officers will be held in Indianapolis, May 8-9, under the auspices of the State Board of Health. The meetings will be held in the Medical College of Indiana, the first session at 10 a.m., May 8. There will be a symposium on school hygiene, opened by a paper on "The School House," by Louis Gibson, and following this a consideration of the various phases of school hygiene and papers on various sanitary subjects.

Louisiana State Medical Society.—At the close of the annual meeting, just held in New Orleans, the following officers were elected for this Society: president, F. W. Parham; vice-presidents, C. J. Landfried, J. Callan, C. M. Smith, T. G. Ford, O. M. Patterson and R. C. Webb; treasurer, H. S. Cocram; recording secretary, H. B. Gessner; corresponding secretary, A. G. Friedrichs.

Texas Medical Association.—At the annual meeting of this Association held in Waco, Texas, April 24-27, it was decided to recommend that the state health authorities adopt the quarantine regulations agreed on at Atlanta and indorsed at New Orleans. The question of medical legislation was also given consideration, and representatives are to be urged to support the bill for the regulation of practice in the state.

Medical Society of the State of California.

Annual Meeting, San Francisco, April 17-19, 1900.

Dr. George Chismore, the President, presiding.

MEDICAL LEGISLATION.

Dr. Thomas Ross, Sacramento, read a paper on this subject, in which he reviewed the work done by the profession and presented the status of the people and the states in their attitude toward the profession. He insisted on a higher and a better preliminary education than many medical schools have heretofore possessed, if we desire to raise the standard of professional attainments, for to be a competent physician to-day requires the highest order of attainment, untiring industry and unselfish devotion to the interests of the profession and the wants of suffering humanity. The examination for license to practice should only be open to graduates of colleges having a four-years course. These examinations should not be too technical but should fairly test the professional knowledge of the applicant. There should be one board of examiners only, and the examination should be the same for all, except that on materia medica and therapeutics. He thought that the fairness and liberality of the provisions of such a law would command the respect of the people, and would elevate the profession by excluding the illiterate from the study and practice of medicine.

PATHOLOGY AND TREATMENT OF ANEMIA.

Dr. W. N. Sherman, Fresno, treated of the changes in composition, and the varying relation of the corpuscles, and their changes in shape, size and color. He spoke of the value of an early and frequent microscopic examination of the blood for diagnostic purposes. He classified anemias with reference to their origin, the primary forms including chlorosis, pernicious anemia, etc., and the secondary, resulting from nutritive disturbances in the blood, and the direct loss of blood by hemorrhage. The rest of his paper consisted in a consideration of chlorosis and idiopathic anemia. He entered rather exhaustively into the technique of both microscopic and chemical examination of blood. In regard to treatment of severe anemias, he placed rest as the most important measure, and cited cases where all therapeutic treatment failed, while, placed in bed for a time, patients respond quickly to medicine. Attention to the secretions, diet, and skin, and mental condition, are all-important. The great therapeutic agent in this disease is the Blaud pill, no other preparation of iron comparing with it. The next best is arsenic; the improved Blaud pill contains this article and is a very desirable combination. In severe cases oxygen by inhalation is good.

BUBONIC PLAGUE.

Dr. Henry A. Ryfkogel, Oakland, presented a paper on the "Present Pandemic of Bubonic Plague." He considered the history of the disease, and gave a resumé of former epidemics. He also referred to the origin of the present pandemic and its progress; the plague in China, in Japan; in South America; in the Sandwich Islands; in Australia; in the United States; and gave a description of the specific bacillus, and discussed the methods of carrying infection, and the possibilities of further invasion, closing with a few words on prophylaxis.

TUBERCLE BACILLI IN URINE.

DR. MAURICE W. BROWN, Alameda, referred to a class of pyuria in which tuberculosis of the kidney or bladder is probable. He spoke of the differentiation of tuberculosis of the bladder from tuberculosis of the kidney. In obtaining urine for examination, the smegma bacillus is the principal source of error, therefore disinfection of the prepuce and glans should be most thorough. He considered the microscopic technique for the demonstration of tubercle bacilli, and reported two cases of tuberculosis of the kidney.

PNEUMONIC COMPLICATIONS IN PHTHISIS.

DR. W. OPHULS, San Francisco, read a paper on this condition, which he thought most often due to aspiration of contents from pulmonary cavities. They differ according to whether they are due to simple tubercle bacilli infection, or to mixed infection of these bacilli with other pathogenic bacteria. These pneumonic complications have a great influence on the general course of the disease. The paper was based on the personal study of about sixty post-mortems.

BRONCHOPNEUMONIA.

DR. WM. FITCH CHENEY read a paper describing the nature of the disease and its dangers to life, the latter being: 1, mechanical, from obstruction, and 2, toxic, from infection. Probably the greatest menace to life is that of diminished air space from occluded tubes and collapsed sacs, which leads to deficient oxidation of the blood, and thence death from asphyxiation. Looking at the disease either from the standpoint of pulmonary obstruction or toxemia, our first duty in treating a case of bronchopneumonia is stimulation. The more stimulant furnished the patient the more opposition offered to the progress of the disease. Nutritious food should be given in sufficient amount, for there is no drug equal to food as a sustainer of life. Milk, peptonized if necessary, is the best diet, and at least two quarts should be taken in twenty-four hours for an adult. There is no objection to animal broths if the patient tires of milk, but milk gives a maximum of nutrition with a minimum of bulk, and always deserves first choice. Alcoholic stimulants are next in importance, and should anticipate symptoms of depression. Chief among stimulant drugs comes strychnin sulphate. 1. It acts as a stimulant to the respiratory center. 2. It increases the reflex activity of the spinal cord, exaggerates the impression conveyed to it by the mucus in the tubes, making the cough in turn more forcible and efficient, and so helps to cause elimination, or at least to prevent accumulation of the viscid exudate. 3. It acts as a direct stimulant to the heart, increasing the force of the contractions of the right ventricle, and so helping it overcome any obstacle in the way of its work. The d [illegible] moderate, 1/30 gr. every eight hours as indicated, to once in six or once in four hours, for an adult. The only other drug advocated for routine administration in this disease is the carbonate of ammonia, for its stimulating rather than its expectorant qualities. The temperature must be taken at least three times a day, and the number of respirations and pulse counted frequently. The cough should not be interfered with unless it becomes troublesome. Dover's powder is the author's favorite remedy for this affection. Pain can usually be overcome by hot applications to the chest. He thinks the fever rarely becomes high enough to constitute a source of danger. He decries all high depressing antipyretic drugs, a high temperature usually meaning a wide area of infection and excessive productions of toxins, calling for additional stimulants rather than depressing drugs. He would rather recommend sponging of the extremities or entire body with equal parts of water and alcohol for high fever. Cyanosis demands stimulation, atropin and digitalin should be here added to the strychnin, and given hypodermically. Caffein is another useful drug. Oxygen should be administered continually until normal color is restored. The author closes his paper with some remarks referable especially to the treatment of this disease in infants.

MANAGEMENT OF LABOR.

DR. WM. J. G. DAWSON, St. Helena, in a paper on "A Few Practical Points in the Management of Labor," called attention to the ordinary duties of the obstetrician, to the use of unguents in dry labor; douches and chloroform in rigidity of the os, and referred to ordinary measures for protection of the perineum. He believes that modern teaching is somewhat responsible for laceration of this body, and that forceps are too frequently applied when not needed. He deprecates the modern method of external examinations only, and advocates repeated examinations during the first and second stages. In the third stage of labor he depends on uterine contractions for delivery of the placenta, and does not use the Credé method. He applies pressure over the uterus and traction on the cord, and keeps up firm pressure on the uterus by the hand as a preventative of postpartum hemorrhage.

UTERINE SCRAPINGS.

DR. HAROLD BRUNN, San Francisco, in a paper on the "Value of Microscopic Examination of Uterine Scrapings," referred to the frequent curettement, and the prevalent ignorance as to the pathology of the endometrium. He called attention to the similarity of the symptoms and microscopic appearance of the endometrium in benign and malignant diseases. gave the details of performing a diagnostic curettement, and preservation of scrapings, methods of mounting, and called attention to the relations between the pathologist and surgeon.

SHOCK.

DR. E. H. WOOLSEY, Oakland, read a paper citing cases of shock from a variety of causes, from mental emotion to grave injuries, including shock from cold drinks, renal calculi, catherization, intestinal perforation, rectal dilatation, etc. His remarks dealt chiefly with the tracing of the process from cause to effect; entertaining the view that the phenomena of shock are reflex effects.

SUBARACHNOID SPACE.

DRS. DUDLEY TAIT AND G. E. CAGLIERI, San Francisco, presented a paper on "Experimental and Clinical Notes on the Subarachnoid Space." This paper was awarded the prize, by the prize essay committee, and will appear in THE JOURNAL.

SURGERY FOR GALL-STONES.

DR. BEVERLY MACMONAGLE, San Francisco, presented a paper on "Some Surgical Methods of Treatment for Gall-Stones," the first method being the removal of the gall-bladder with gall-stones, with drainage. The second is to open the gall-bladder, remove the gall-stones, and attach the gall-bladder to the abdominal parietes, with drainage. The third method is to open the duodenum, dilate the opening from the common duct to the duodenum, and remove the stones, closing the duodenum and abdomen. A fifth is to open the gall-bladder, remove the gall, and close the gall-bladder and abdomen, without drainage. Dr. MacMonagle cited illustrative cases for each of these methods and considered the technique of each. He believes that the second meets the requirements of most operators.

DR. J. HENRY BARBAT said the removal of the gall-bladder is unjustifiable if the cystic duct is patulous, and gall-stones exist much more frequently than recognized. He recently removed 280 stones from the gall-bladder of a patient who had been treated for almost everything else.

DR. CLINTON CUSHING thinks it perfectly safe to remove the gall-bladder, and that it is of no more use than the appendix vermiformis.

DR. F. B. CARPENTER, San Francisco, thinks that if the gall-bladder is diseased, it should be removed. The common duct should be thoroughly examined before the gall-bladder is closed, in all cases in which it is incised.

APPENDICITIS.

DR. J. HENRY BARBAT, San Francisco, presented a paper entitled "A Few Notes on Appendicitis." This paper will appear in THE JOURNAL.

LIGATION OF INTERNAL JUGULAR.

DR. CHAS. G. LEVISON, San Francisco, presented a paper on "Ligation of the Internal Jugular Vein During the Removal of a Malignant Growth of the Neck." It discusses a case operated on by the writer, and followed five days after by death from a thrombosis of the jugular vein, lateral and sigmoid sinuses.

ABORIGINAL TREPHINING.

DR. PHILIP MILLS JONES, San Francisco, presented a paper treating of the methods in vogue in the Pacific Islands, within historic times, and of the experimental work of the author. He exhibited some trephined skulls.

PROSTATIC CALCULUS.

Dr. John C. Spencer, San Francisco, in this paper reviewed the pathology and etiology, dividing all cases into either essential or adventitious, and treating especially of the essential form. He cited the conclusions of many authorities as to the origin of the trouble, made suggestions as to treatment, and reported a case.

IS GONORRHEA CURABLE?

Dr. M. Krotoszyner, San Francisco, read a paper expressing his opinion that gonorrhea is in many instances an incurable disease. Our diagnostic apparatus does not enable us, in some instances, to demonstrate with safety that the disease is permanently extinct. Everybody who has ever suffered from gonorrhea should permit a most careful examination in order to remove diseased foci amenable to our diagnostic apparatus.

Sacramento was selected as the next place of meeting. The officers elected for the ensuing year are president, Thomas Ross, Sacramento; first vice-president, W. J. G. Dawson, St. Helena; second vice-president, Wallace A. Briggs, Sacramento; secretary, George H. Evans, San Francisco; treasurer, E. E. Kelly, San Francisco.

Medical Association of Georgia.

The Fifty-first Annual Meeting, Atlanta, April 18-20, 1900.

Dr. F. W. McRae, President, presiding.

REPORT ON MEDICAL LEGISLATION.

The Committee on Medical Legislation reported, through its Chairman, Dr. W. S. Elkin: 1. In favor of making renewed efforts to secure the passage by the legislature of the two bills introduced last session, providing for privileged communications to physicians and patients and for expert services in the courts of the state. 2. In favor of so amending the by-laws that the committee on medical legislation shall consist of six members who reside at the capital of the state, instead of nine members from different parts of the state. 3. In favor of an appropriation from the treasury of the Association of $50 or so much thereof as may be necessary, for the use of the standing committee on legislation.

The report was unanimously adopted.

A PASTEUR INSTITUTE.

A committee was appointed to investigate the matter of establishing a Pasteur institute in Atlanta for the treatment of hydrophobia. This committee subsequently reported that it had investigated the matter and was persuaded that the establishment of such an institution would be a great benefit to suffering humanity, not only in Georgia, but throughout the entire South. It would also benefit the profession by furthering scientific investigations. As to the best method for raising the means to establish the institution, or whether it should be in connection with the Grady Hospital, or College of Physicians and Surgeons, the committee did not decide, and asked for further time, with power to act, such action to entail no financial obligations on the Association. The following resolutions were accordingly introduced and adopted:

Resolved, That the Medical Association of Georgia endorses the establishment of a Pasteur institute and laboratory in Atlanta and pledges its hearty support.

Resolved, That the profession will endeavor to secure through legislation 50 per cent. of the dog tax to support said institution when established.

HEALTH MEASURES, ETC.

A bill was framed, introduced, and adopted, creating a department of health and health officers in the state.

A committee appointed last year to confer with the medical societies of other states, inviting their co-operation in a memorial to Congress asking an increase in the rank, pay, and allowance of the Surgeon-general of the United States Army, reported favorably, and the report was adopted.

President McRae read letters from Senators A. O. Bacon and A. S. Clay in which it was stated that these gentlemen would do their utmost to defeat the Gallinger bill when it comes up for discussion and final disposition in the Senate of the United States.

CONTINUED USE OF ANTISEPTIC AND ELIMINATIVE TREATMENT OF TYPHOID FEVER WITHOUT ANY DEATHS.

Dr. T. Virgil Hubbard, Atlanta, read a paper with this title. The author has treated twenty cases of typhoid fever by the antiseptic and eliminative method without any deaths. Other men have treated a larger number without any, and the collective results give a mortality of less than 2 per cent. The physician who has never witnessed the contrast in the clinical picture of a typhoid patient on the eliminative treatment, as compared with the expectant plan, can no more appreciate its efficacy than a person born blind can appreciate the beauties of Nature. If he has never witnessed the prompt disappearance of delirium, the restoration to consciousness to the clouded intellect, prompt return of the appetite and digestive capacity, and gradual but sure reduction of temperature, he has in store for himself one of the triumphs of his profession, and a scene which will give him renewed confidence in the healing art.

TYPHOID FEVER, WITH REPORT OF CASES AND COMMENTS.

Dr. W. B. Hardman, Harmony Grove, followed with a paper on this subject. He thinks the Brand treatment of the disease by plunge baths is impracticable, because it can not be used in the country or in small towns. He vigorously defended the Woodbridge treatment, and cited sixteen cases, with details, which he had personally treated the past year, using the Woodbridge method in each. Of the sixteen, only two patients died. In all of the others the temperature was brought to normal within fourteen days, and they were put on the road to convalescence. He does not follow the directions of Woodbridge to the letter, but uses his own judgment in modifying his instructions. Still, the principle of this treatment is adhered to, and calomel freely used in all cases.

SURGICAL CASES.

Dr. Willis F. Westmoreland, Atlanta, reported a series of interesting surgical cases, and exhibited specimens. One was a case of carcinoma of the cecum; one a case of suprapubic cystotomy for stone in the bladder; one arthrotomy with excision of the head of the humerus for an old dislocation of the shoulder-joint. He showed typical specimens of osteomata.

BRAIN TRAUMATISMS.

Dr. Howard J. Williams, Macon, read a paper on this topic. Except in the grosser lesions involving the motor areas particularly, localization of disturbed cerebral functions has generally been of but little practical value in indicating the point of the brain most importantly involved; he said: The reasons for this are: 1. In the large majority of brain traumatisms multiple lesions exist; many special functions are implicated and conflicting symptoms appear. 2. The general symptoms of cerebral shock, or of concussion, and compression usually so mask the symptoms pointing to special regions involved that important lesions can not be discovered. 3. The general depression common to various lesions may be so prolonged that when it is relieved, the symptoms pointing to special obtunded functions may be discovered too late to be of working value, secondary changes having destroyed the cells of the particular regions involved. 4. While in some regions of the brain a cerebral function is circumscribed, in other parts it is diffused over large areas. Here compensation of the obstructed functions is early taken up by unaffected cells, the functions are restored, and the significant symptoms have disappeared before the general depression has passed off; partial loss of power of the part affected may later become permanent when secondary changes have destroyed the involved area. Dr. Williams reported nine interesting cases.

SPLENECTOMY FOR CONGESTIVE HYPERTROPHY.

Dr. J. Wesley Bovée, Washington, D. C., reported "a successful case of splenectomy for marked congestive hypertrophy, with remarks." The principal reason, usually, for removal of the spleen is its enlargement, and this produces marked distress according to its size, the number and character of adhesions and the interference with the function of other organs. The sense of intolerable dragging when the tumor is large often demands removal, provided other conditions permit it. This enlargement is usually due to paludal, tubercular or idiopathic causes, malignant disease, wandering of the organ, axial rotation, echinococcus and other cysts, chronic congestion, amyloid disease, and injuries, such as rupture. Perhaps the most frequent cause of enlargement—leucocythemia—is the one condition in which the operation of extirpation should almost never be performed. More than one hundred cases of splenectomy for leucocythemia have been reported and in but three of them was it successful. Such results should be sufficient to put this indication for the operation practically beyond dispute. Some writers, however, believe the operation is justifiable when the relative proportion of red to white blood cells is not lower than fifty to one. In some cases perhaps this proportion may not be markedly dangerous, but we must remember the spleen does reach a tremendous size in leucocythemia, often weighing from twenty to fifty pounds and the adhesions may be formidable. In such cases, certainly, the fifty to one rule would be a very dangerous one were it not that in these very marked cases of enlargement, the ratio is usually greater than the one mentioned. It shows, however, the necessity of knowing the blood conditions. Nor should the proportion of red and white blood-cells be all we should attempt to learn in examination of the blood. It is well known that different varieties of both red and white blood-cells have different functions and that the relative numbers of these species of them vary quite markedly in different specimens of blood, whether taken from the same or different patients. This is certainly an element of great importance. Aside from this, it is of the greatest moment to know the hemoglobin percentage of the blood of a patient suffering from a leucocythemic spleen. If this be not far below the normal, as shown by the present inaccurate instruments, the prognosis of the surgeon is less grave.

Splenectomy is not an operation to be lightly entered on with scarcely any knowledge of the conditions demanding it and of those absolutely contra-indicating it. It is fully important to know when not to do the operation as when to intervene surgically. He reported a case in detail.

The following officers were elected for the ensuing year: president, Samuel C. Benedict, Athens; vice-presidents, R. M. Harbin of Rome, and V. D. Lockhart of Mayesville; secretary, Louis H. Jones, Atlanta. The next place of meeting is Augusta, the third Wednesday in April, 1901.

Philadelphia Pediatric Society.

March 13, 1900.

TUBERCULOUS CAVITY IN CHILD.

Dr. D. J. M. Miller presented a girl, 8 years of age, with a tuberculous cavity in the lung, with skiagraph. The child's father died of phthisis, and was constantly attended by her. One year after his death she first showed symptoms of the disease. As a rule cavities are not so frequent in children as in adults. In this case a residence of twelve weeks in a hospital brought about marked improvement. Within six weeks she gained six pounds. When first admitted she had night sweats and considerable fever.

SECONDARY ANEMIA IN CHILD.

Dr. D. J. M. Miller also presented a case of profound secondary anemia in a girl 2 years old, who had been under observation for three weeks. The disease probably originated eighteen months ago, with general increase in pallor and loss of appetite, but there was no diarrhea. The spleen and liver were slightly enlarged, but there was no lymphatic enlargement. There was slight tenderness over the tibia. First examination of blood showed: red cells, 3,984,000; leucocytes, 24,000; hemoglobin, 23 per cent. Several weeks later the red cells numbered 3,984,000, leucocytes 12,200, and the hemoglobin was 23 per cent. The condition therefore appeared to be one of chloro-anemia with moderate leucocytosis. There were no nucleated red cells.

Dr. Alfred Stengel, in discussing the first case presented by Dr. Miller, said that the diagnosis of small cavities in the lungs in children is extremely difficult, since many of the physical signs present under normal conditions prevent the signs from becoming manifest. Thus a cracked-pot sound may be obtained in a healthy chest during the time the child is crying.

Dr. F. Savary Pearce thought the symptoms of the second patient pointed to rickets.

Dr. Alfred Hand thought the condition might be brought about by rickets, or by gastro-intestinal disturbances due to bad hygiene.

VALVULAR ENDOCARDITIS AFTER CHOREA.

Dr. John M. Swan presented a case of chronic valvular endocarditis following chorea. The child was first seen in June, 1898, and was suffering from short cough, dyspnea and edema of the ankles. The family gave a history of rheumatism. In 1897 the child had been treated for arthritic troubles and later for chorea. The disease first began in the hands, then in the arms and legs. The tongue had manifested choreic movements. A soft murmur had been heard over the base of the heart, the pulse was accelerated and still later a double mitral murmur was transmitted to the axilla. The heart's action became tumultuous. There had been no albumin nor glucose present. The child was sent to the country but became worse, the feet and hands became swollen and ascites developed, followed by the appearance of albumin and casts in the urine. During the treatment the urine suddenly increased to a very large quantity, after which steady improvement set in and the child was able to get out of bed. Mitral regurgitation and also aortic stenosis were now detected. Hot baths were given daily, milk diet, digitalis, strychnin and Rochelle salts when needed. In February, 1900, the child weighed 60 pounds, attended school regularly and was able to do general housework. The pulse is now full and the rhythm regular. The apex is in the sixth interspace. The murmurs are not so distinct as formerly, and the urine is practically normal.

Dr. F. A. Packard thought that probably the valvular leakage might in part be due to pericarditis which had been present.

TUMOR OF KIDNEY IN CHILD.

Dr. J. H. McKee reported a case of large tumor of the kidney, occurring in a girl 6 years of age. There was no history of tumors on the father's or mother's side. The child had been healthy and strong, her only previous illnesses being measles and chicken-pox. Three months previously she began to lose flesh and later a pain in the leg developed. Still later there was abdominal enlargement, constipation, and cachexia. The abdominal enlargement was irregular on the left side, and dulness extended downward to the anterior superior spine, and in this region bulging was noticed. At one time a peristaltic wave had been detected, but there had never been much tympany. A nodular growth was also found in the region of the ribs. The urine contained no albumin, nor glucose, but some time later albumin was found, together with casts and red blood-cells. On October 4 an operation was performed by Dr. T. S. K. Morton, followed by temporary improvement, but death occurred later, probably from a recurrence elsewhere.

Detroit Medical and Library Association.

Detroit, Mich., April 9, 1900.

Dr. Carl Bonning, President.

SYMPOSIUM ON ENDOCARDITIS.

Dr. W. M. Donald considered the etiology and pathology, saying, in part: Valvulitis and endocarditis are synonomous terms. Three classes exist—acute simple, acute malignant and chronic. It is claimed that 20 per cent. of all cases of acute simple endocarditis result from rheumatism, but almost any of the infectious diseases may be a predisposing factor. Chorea must not be forgotten. Chronic valvular defects seem to be the predisposing cause of malignant endocarditis. Following this come pneumonia, meningitis, septicemia and erysipelas. The chief causative agent of the third form is a preexisting acute endocarditis. Alcohol, syphilis, gout, overindulgence in rich food and severe exertion must also be considered as of etiologic value. In the first form the principal pathologic lesions are vegetations—granulation tissue capped with fibrin on the valves at their point of closest contact.

These vegetations are in time absorbed, leaving only a nodular thickening of the valve. In the second form the vegetations go on to necrosis, with frequently more or less ulceration, and even abscesses may form. Bacteria are present in large numbers, among which are the bacillus of pneumonia, and the staphylococcus and streptococcus pyogenes. In the third form, the edge of the valve is thickened and has nodular outgrowths. Advanced stages show curling up and retraction of the valve's edge. Adhesions may co-exist as well as calcification of the valves and surrounding tissues.

Dr. W. R. Chittick presented the symptomatology, and said: The signs of acute simple endocarditis may be vague. A systolic murmur heard at the apex of the heart, indicating mitral regurgigation, is the sign most frequently met with, though not a settled question. The aortic valve may become involved and cause a double aortic murmur—a diastolic murmur being always organic. Accentuation of the pulmonary second sound, and dulness on percussion when due only to rheumatism are certain signs of endocarditis. The symptoms and signs of the second variety are precordial distress, pain, shortness of breath, dropsy, extreme pallor, great rapidity of the pulse, diastolic aortic murmur. A systolic mitral murmur with accentuated pulmonary second sound and evidence of engorgement of the right heart, with the presence of fever and other grave symptoms are characteristic. The spleen is enlarged and tender, and changes in the urine, paralysis, delirium, convulsions, headache, coma may follow. The symptoms often closely resemble those of typhoid fever. The symptoms of the third variety are usually shortness of breath on exertion, cough, and later dropsy. Palpitation, intermittent action of the heart and derangements of the digestive tract may occur. Blueness of the lips, ears, nose, etc., and enlargement of the veins of the cheeks and nose are often present.

Dr. G. W. Wagner considered the diagnosis and prognosis. If in the course of any acute infectious disease, especially rheumatism, a heart murmur is discovered, the time of its occurrence, its distribution, accentuation of the second sound and the changes in the heart's action which follows will usually indicate endocarditis. Chief among the points brought out were: In aortic lesions the stethoscope should be placed over the carotids in the neck, to diagnose the presence or absence of the second sound; the differentiation of aortic stenosis from certain changes due to anemia; of aortic incompetency from syphilis and degeneration changes; of mitral incompetence from accidental murmurs; the signs of mitral stenosis, and pulmonary stenosis and insufficiency. As to prognosis, we must base our conclusions on a careful study of the nature of the disease and degree of compensation present, as well as on the general condition of the patient, his occupation, habits, etc.

Dr. F. L. Newman took up the question of treatment. In acute endocarditis it should be directed toward limiting the course and effects by modifying the cause. The cardinal point is to quiet the restlessness of the heart by absolute rest in bed. In the sthenic cases, aconite is given; if there is pain, pulv. Doveri; in asthenic conditions, when the heart weakens, digitalis, strychnin, ammonia or ether—usually digitalis is not required until later on when valvular disease is supervening. As to local measures, authorities differ. Ice to the region of the heart is often very grateful to the patient. Belladonna plaster over the heart, by its very pressure, is soothing. In chronic endocarditis no treatment is necessary until symptoms of dilatation appear. Up to this time the patient should avoid anything that subjects the heart muscle to sudden strain. Drugs are prone to do harm during the stage of compensation. When the latter is only partially established and signs of cardiac failure occur, the patient must be put to bed and carefully nursed. In all forms of cardiac dilatation from valvular lesions, our sheet-anchor is digitalis. Strophanthus is next in importance. Strychnin is one of the best cardiac tonics. Caffein has a very uncertain action on the heart, but a very decided one on the kidneys. Nitroglycerin has no action on the heart, but decreases the resistance against which systole is performed. The doctor spoke of the action of heroin, gr. 1/12 every two hours for three times, as relieving a patient of his distressing cough and vomiting after all other regular means had failed.

New York Academy of Medicine.

April 5, 1900.

Dr. Wm. H. Thomson, President.

PREVENTION, MANAGEMENT AND EARLY DIAGNOSIS OF SCARLET FEVER.

Dr. Floyd M. Crandall presented this paper. Scarlet fever is peculiarly a disease in which much can be accomplished by prophylaxis. Sometimes children will be exposed quite thoroughly, even so late as after the initial vomiting, and still escape. In 90 per cent. of his cases, the period of incubation was between two and six days. The symptom-complex of vomiting, fever, rapid pulse and sore throat, when present, made it highly probable that the disease was scarlet fever. In his experience, the vomiting was the most constant symptom of all, and had often been violent and projectile. A pulse of 150 was not unusual at the outset. The so-called "strawberry tongue," i. e., a tongue in which the red papillæ show on a white ground, is not the true "strawberry tongue;" the latter, like the fruit after which it is named, has dark red dots or papillæ on a red and roughened ground. This kind of tongue is very characteristic of scarlatina, but unfortunately it is of so late occurrence that it is not of much diagnostic value. In estimating the progress of the disease, and when it will be proper to raise the quarantine, one should search with special care for desquamation around the fingers and on the hands. It is only in a very general way that the statement that the disease lasts forty days can be accepted. Another fact that should be borne in mind in this connection is that there is danger of contagion so long as there is any purulent discharge present as, for instance, a suppurative adenitis or otitis. The question of the advisability of closing the schools because of an outbreak of such a disease as scarlet fever must be decided by the character of the community. For example, in a large city like New York, the closing of the schools would bring the children more closely together, whereas in rural districts such a measure would probably keep them apart, and so tend to check the spread of the disease. When in attendance on a case of scarlet fever it is the part of prudence for the physician to wear, while in the sickroom, a cotton gown reaching from the head to the feet. This garment should be kept in the sickroom. People, as a rule, did not object to such a precaution, but, on the contrary, think all the more of a physician who is so careful about the welfare of others; moreover, if scarlet fever should break out mysteriously in another of the families attended by the same physician, the latter is not so likely to be censured, or suspected of having carried the contagion. During an attack, the anointing of the body surface with some bland oil not only prevents the dissemination of the disease but soothes the patient and often reduces the temperature. However if irritating antiseptics are employed, they are likely to do harm, and will most probably prolong the period of desquamation. Pruritus is relieved by a 5 per cent. boric acid ointment. Lard is objectionable because of its proneness to get rancid.

TREATMENT OF SCARLATINAL NEPHRITIS.

Dr. Robert Coleman Kemp read a paper on this topic. He expressed the opinion that this form of nephritis is one peculiar to scarlet fever. It usually develops between the second and fourth weeks of the disease, and is a diffuse nephritis associated with general dropsy. The first sign is a sudden fall of the specific gravity of the urine, followed shortly afterward by a rise in specific gravity, a diminution in the quantity of urine, and a deepening of its color. It is during this early stage that active treatment should be instituted. As a rule, albuminuria and anasarca do not occur until later. As oxygen is a good cardiac stimulant, and an aid to the elimination of toxins, it is a very useful remedy in scarlatinal nephritis. Its early use is the keynote of success here. Enteroclysis with saline solution at 110 to 120 F. will be found very beneficial. As a rule, it will cause the secretion of four or five times as much urine as the quantity of saline solution used.

Dr. H. D. Chapin said that in recent years he had seen a much milder type of scarlet fever than formerly. In this city the most prolific causes of the spread of such diseases as scarlet fever are the dispensary waiting-rooms and the crowding of school children's clothing in close wardrobes.

Dr. C. G. Kerley said that the most characteristic symptom of scarlet fever is the sore throat; the other symptoms may be exceedingly slight and easily overlooked. He has known the period of incubation, in exceptional instances, to be as long as twelve and fourteen days. He has found colonic washings at 110 F. the most successful treatment for the nephritis.

Dr. J. E. Winters insisted that it was rare for physicians to meet with a fatal case of scarlatinal nephritis. Albuminuria is no more frequent in the early stage of scarlatina than in measles, and even when it does occur in those cases which subsequently develop nephritis there is invariably an interval in which no renal disease is present. It is worthy of note that scarlatinal nephritis occurs most commonly in mild epidemics, in the mild season of the year, and in dispensary and tenement house practice or among those children who are allowed to get out of bed too soon. It is invariably a glomerular nephritis, and it is always ushered in by a sudden rise of temperature. The indication for treatment is to diminish the quantity of blood going to the Malpighian tufts, and this he has found best accomplished by the administration of aconite up to its physiologic effect. Such treatment will speedily cause an increase in the quantity of urine, and associated with this will be an increased activity of the skin, so that abundant opportunity is afforded for the elimination of toxins. Enteroclysis with saline solution is useful in certain forms of nephritis, he says, but he is totally opposed to its use in scarlatinal nephritis.

Surgical Section, April 9, 1900.

RELATIVE BEARING OF CONJOINED TENDON AND INTERNAL OBLIQUE MUSCLES ON RADICAL CURE OF INGUINAL HERNIA.

Dr. Joseph A. Blake read a paper based on twenty-five dissections he had made, and which went to show that the conjoined tendon never extends on the internal surface of the rectus for more than five-eighths of an inch, and that it is such a weak structure as not to be worthy of consideration in hernia operations. The main reliance must be on the external oblique.

STERILIZING CATGUT.

Dr. C. A. Elsberg presented "A Preliminary Report and Demonstration of a New Method of Sterilizing Catgut." The method is simple and inexpensive, and bacteriologic investigations prove it to be thoroughly efficient and reliable. The fat is first removed from the catgut by immersion for forty-eight hours in a mixture of chloroform, one part, ether, two parts. After this mixture has evaporated from the catgut, the latter is tightly wound in one layer on glass spools, and immersed for twenty or thirty minutes in a hot saturated solution of ammonium sulphate in water. When removed from this it is immersed and agitated for a few minutes in sterile water, or in a weak solution of bichlorid of mercury or of carbolic acid to remove the salt which tends to crystallize upon it. It is then sterile, and can be preserved in alcohol, or in the dry state. Such catgut has been found to be remarkably strong, soft and pliable, and yet is absorbed in the tissues in from four to eight days. If it is desired to chromicize the catgut it is only necessary to substitute a 1 to 1000 solution of chromic acid in water for the plain water used for making the saturated solution of ammonium sulphate. Catgut prepared by this new process has already been used by several surgeons with the greatest satisfaction.

Topeka Academy of Medicine and Surgery.

Topeka, Kan., April 2, 1900.

President—B. D. Eastman.

TYPHOID FEVER.

Dr. S. G. Stewart read a paper on this subject, and laid special stress on some of the more common symptoms observed at the bedside. The disease is characterized by being an acute infectious disease transmitted chiefly by water and milk, the latter usually infected by washing the milk cans with infected water. The course is from three to four weeks, and frequently from one to three months. During the second week the rose spots in various degrees of severity make their appearance. The pathology is the most important part of the disease. Lesions may be extensive over the intestines. Some have been found in the duodenum and even in the stomach. There is no organ in the body that does not suffer from the arrest of nutrition. In making the diagnosis one must always take into consideration the degenerations in all parts of the body. If we had the ideal sanitary regulations we would have no typhoid fever. The typhoid cases in Topeka are in the people who drink well water.

Besides the poison from the typhoid bacilli, the system absorbs an additional amount from the decomposition of intestinal contents. Putting antiseptics into the intestines has been overdone. Iodin is used largely, as some think it increases nutrition, but if given for a long period it produces iodism. It is the same with many other drugs; if given too long depression results. Many are not so harmful, e. g., creosote, carbolic acid and salol. The latter is probably one of the safest and best. However much we put into the intestinal tract, we do not make it aseptic. We have very little to hope for from such medication. Opium should not be given to control the bowels, as it makes them more tympanitic. The doctor relies principally on fel bovini purificati. He reported a case of a family of twelve, all taken down with typhoid about the same time.

One of the family did hard work on a farm for several weeks, after being directed to go to bed and stay there. Finally he he came down with sharp pain in the right inguinal region. Dr. McClintock performed an operation and found peritonitis from typhoid perforation. Drainage was established and the patient rallied for a little over a week, when an abscess formed in the left lung and large quantities of gangrenous pus were expectorated. Then abscesses formed all over the body, and later the right lung became involved and the patient died after an illness of twenty-one weeks. Peptonized milk was used entirely. He especially emphasized the fact that one must not depend too much on chemical antiseptics, and must meet the indications as they arise.

Dr. O. P. Davis spoke on the pathology of typhoid, and said that Dr. Osler and others describe general systemic typhoid without intestinal lesions. The characteristic lesions are found in the intestines, particularly in the region of the ileocecal valve. In the first week there is a condition of hyperemia and catarrhal symptoms, in the second a condition of hyperplasia, in the third necrosis begins, and in the fourth cicatrization. The scars in typhoid lesions are pigmented, and a diagnosis may be made some years after the disease. He described the bacteriologic examination of the feces, blood and urine. Leucocytosis is never present in the early stage of typhoid, but is found in some other infectious diseases.

Dr. R. E. McVey spoke of the treatment. The trouble begins in the sympathetic nervous system, and so there are two factors to treat, the nervous system and the glands. The majority of patients are overtreated. He spoke of a patient being overdosed and having forty-six movements a day. He stopped all medicine when he took charge, and then gave bismuth. Recovery followed. He gives milk chiefly because it is absorbed by the veins, and does not see any use in pepsin or pancreatin. Acids are frequently of some use e. g., nitrohydrochloric. He does not object to exercise in the early stages, as it keeps up the tone of the muscular tissue, nor does he think a typhoid runs over thirty days; when the patient is ill longer it is something else.

Dr. Stewart, in closing the discussion, said that the bacilli do live outside the body, but do not propagate outside. They will live for months and months in ice. The nervous system is affected by the degenerations.

Water treatment takes the place of any antipyretics. Sponge baths are better than opium, to treat delirium, restlessness, etc., He disinfects both the stools and urine, and never uses chemical antipyretics, for we lessen the chances of the patient's life when we lower the temperature with the latter. His advice is to sit down and study the case and meet the indications as they arise.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
61 MARKET STREET, - CHICAGO.

SATURDAY, MAY 5, 1900.

TRIGEMINAL NEURALGIA.

Pain may arise from irritative disturbance at any point in the course of a sensory nerve between the cerebral cortex and the periphery, and the exciting cause may be of most varied character—inflammatory, degenerative, toxic, organic, structural. The treatment must necessarily vary accordingly. To functional disturbances we shall make no reference further than to express the opinion that derangement of function always depends on, or at least is associated with, physical alteration of structure, although this may be of such an impalpable nature as to be beyond our present powers of observation. It is probable that under these conditions the alterations that take place may be looked upon as of a nutritional, chemical or toxic origin. These considerations are of importance in connection with the treatment of the group of disorders known as neuralgias, and than which no more painful affection exists.

At the recent joint meeting of the College of Physicians of Philadelphia and the Philadelphia Neurological Society,[1] the subject of "The Fifth Nerve in Its Surgical and Neurological Aspects" was taken up for consideration, by eminent authorities, and a number of important facts brought out. Among other things the first American case of tumor of the Gasserian ganglion and the third in the literature was reported, the new growth being an endothelioma. The patient survived two severe operations, but unfortunately obtained no relief, and in view of the nature and extent of the lesion recurrence is almost certain. In the next place a new operation for the removal of the ganglion was described, which commends itself for its simplicity, its bloodlessness, its ease of execution and its effectiveness. This consists in resection of the zygoma, turning back of the temporal muscle, trephining of the temporal bone, retraction of the middle meningeal artery, and exposure and removal of the ganglion, without the necessity of entering the meningeal cavity. The operation has already been performed successfully in four cases that were reported.

The discussion failed, however, to settle conclusively the ultimate pathology of tic douloureux and no evidence was put forth to show that the disease may not be due to disease of the cortico-medullary neuron. The tendency for the pain to return after removal of the nerve-trunk or even of the ganglion, and to appear in a second nerve after one previously affected has been resected would seem to indicate that, in some cases at least, the source of pain is beyond the ganglion. Of the utility of operation, peripheral or central, sufficient evidence was afforded, but no assurance of success can be predicated in advance of the operation. As in other matters, time alone is here the final arbiter. The suggestion that instead of removing the ganglion division of the root of the sensory portion of the nerve, between the pons and the ganglion, should be practiced, is worthy of serious consideration.

Considering that the discussion was from a surgical standpoint, little was said of medicinal treatment, although it was pleasant to hear that occasionally spontaneous disappearance takes place. Nevertheless, it would seem axiomatic that all ordinary therapeutic resources should first be exhausted before surgical intervention of any sort is undertaken; and then it will be wisest to first attempt the simpler operation of stretching or resection, reserving the more radical procedure of excision of the ganglion as a final resort.

BLEEDING IN THE TREATMENT OF UREMIA.

It is probable that bleeding will never be employed again to the extent it has been in the past, but the question is frequently raised whether it is at present being practiced to the degree that its efficacy makes it worthy of. There can be no doubt that there are certain conditions that nothing will relieve so promptly and so certainly as does free venesection. One of these consists in the state of venous stasis resulting from failure in the activity of the right heart, whether due to degeneration of its muscular wall or secondary to similar failure on the part of the left heart or to pulmonary obstruction or to regurgitation through the tricupsid valves. Probably some conditions of local hyperemia or stasis, as of the brain or the lungs or the kidneys, may be relieved by the same measure. Then there is reason to believe that various toxic states, such as diabetic coma or uremia, or such as sometimes occur in the course of infectious diseases, can be ameliorated by free bleeding, and the results are probably even more satisfactory when subcutaneous infusion is practiced at the same time. By the bleeding it is hoped to remove from the circulation certain noxious substances that have failed of elimination through the natural channels, either because of their production in excess or because of deficiency in the functional activity of the emunctories; and by the infusion to maintain the mechanical integrity of the circulation, and perhaps also to effect dilution and elimination of toxins remaining in the tissues. It is a question, however, whether sufficient of the poisonous matter can be removed by even a free bleeding to bring about a distinct effect on the general condition, although it may be that when the system is partially relieved it becomes capable of ridding itself of the remaining incubus.

After all has been said, however, the fact remains that a satisfactory explanation of the mechanism by which the therapeutic effects of bleeding are brought about has not yet been forthcoming. In view of this fact Richter[1] undertook a series of experiments with the object of deciding the question in so far as it concerns uremic intoxication. He points out that uremia may be accepted as an indication of renal insufficiency. Now, it has been shown that this latter condition is attended with retention in the blood, of the molecular products of disintegration, with increased molecular concentration. Increase of the osmotic pressure, as indicated by a reduction in the freezing-point of the blood, may under certain circumstances be considered the index of deficiency in the activity of the renal function. It has, however, not yet been demonstrated that this increase in osmotic pressure is the cause of the uremia. In fact, on the one hand, increased molecular concentration of the blood in cases of disease of the kidneys may be unattended with uremic manifestations; while, on the other hand, it may be wanting in the presence of profound uremia. It is thought that increase in the osmotic pressure and the poison that gives rise to uremia have a common origin, namely, the proteid molecule. Richter has found, however, that profound uremia is almost invariably attended with increased molecular concentration of the blood. He undertook, therefore, to determine how the latter would be affected as a result of venesection, with or without subsequent subcutaneous infusion, in animals in which renal insufficiency was induced by previous treatment with substances capable of exciting nephritis or which had been subjected to nephrectomy.

---

[1] The papers presented at this meeting appear in this and last week's JOURNAL.

[1] Berliner Klin. Woch., Feb. 12, 1900, p. 134.

It has been shown that the normal molecular concentration of the blood is not influenced by bleeding alone. It was found, further, that the renal insufficiency that was developed slowly and gradually as a result of cautious administration of renal poisons, such as cantharidin and aloin—as indicated by increased molecular concentration of the blood—was not influenced by bleeding. A distinct parallelism was observed between improvement in the nephritic process and the degree of molecular concentration of the blood. With the disappearance of the symptoms of nephritis the reduction in the freezing-point was restored to the normal. Also, when the molecular concentration of the blood was rapidly increased by the administration of renal poisons capable of inducing acute toxic diffuse nephritis, no noteworthy diminution in osmotic pressure was observed after bleeding, with or without subcutaneous infusion.

Although these observations fail to supply an explanation of the mechanism by which bleeding affords relief in cases of uremia the results obtained clinically by this measure are not therefore to be impugned.

DANGERS FROM FORMALDEHYDE.

The local newspapers have, within the past few days, contained accounts of accidents from disinfection by formaldehyde gas, and it was said that a number of the employees of the Chicago Health Department were suffering from its effects. In one case insanity was reported as the result. A careful inquiry reveals that the reports were somewhat exaggerated, and that in no case was serious permanent injury received so far as known. The method used in Chicago is that of spraying on sheets, and there are certain dangers connected with the use of formaldehyde in this way especially to those who, as public disinfectors, are compelled to repeatedly expose themselves to its vapor, but these are chiefly confined to the disinfection of large spaces that necessitate a comparatively prolonged stay in the gradually vitiated atmosphere; in ordinary-sized rooms, they are minimal if they exist at all. There is also a certain inconvenience from the temporary irritation of the air-passages, and catarrhal affections from these are common from this cause. The skin must also be protected, as exposure produces a troublesome eczema that sometimes leaves a permanent thickening. In two cases a temporary mental derangement, lasting for a few hours, has been observed, and a dazed condition for a brief period in others after excessive exposure. In one case complete unconsciousness for a number of hours followed the accidental douching of the head and face with the formalin solution, but left no permanent ill effects. There are reports also of alopecia having occurred from this cause, though the Chicago health officers have had no such experience. So far as known all the accidents have occurred to those who have had to expose themselves professionally as disinfectors; none are reported to others.

These facts show that formaldehyde is an agent that must be handled with some care, and that while the sheet method of disinfection has its advantages, it also has its perils when applied to very large spaces, such as storehouses, large hospital wards, dormitories, etc. The fact, however, that the Chicago Health Department's officials have made many thousand disinfections with but few such accidents, and without serious permanent injury to anybody, shows that these may be exaggerated, and experience will probably develop some appliance that will reduce them to a minimum. Perhaps also some form of generator may be produced that will be as efficient as the sheet method, although, according to the Chicago experiences, this is still a desideratum. Like every other powerful agent used in medicine for good, formaldehyde needs careful handling, but the fact that with all its powerful toxic action on the nervous system, as well as its action as a local irritant, no permanent injury has been received from it by any one, is strongly in its favor as a comparatively safe disinfectant.

THE MASSACHUSETTS GENERAL HOSPITAL.

The eighty-sixth annual report of the trustees of the Massachusetts General Hospital is an interesting document, as this hospital shows a high grade of organization in all its various departments and has excellent plans for increasing its usefulness in the future. Without going into unnecessary details, mention should be made of certain things that must be of great interest to medical men. Thus we find that the library of the hospital maintains a healthy growth: it now contains something over 5000 volumes. The trustees have assumed the expense of publishing reports of the clinical meetings of the staff and steps have been taken for the immediate publication of important investigations in clinical pathology. The clinical-pathologic laboratory of the hospital has successfully demonstrated its increasing usefulness in the general work of the institution, and its needs as outlined by its directors have received full recognition. From the report of Dr. Wright, the director of the laboratory, we learn that the existence of the latter is due to a special fund raised by friends of the hospital. He calls especial attention to the need of such laboratories in order to bring the work of hospitals up to the standard, and he emphasizes also the scarcity of properly-equipped special ones of this sort in this country. While we have a multitude of public and other hospitals, there are probably not over half a dozen laboratories in connection with them worthy of the name. And yet it is safe to say that if the medical staffs of hospitals of fair size will make determined efforts toward securing properly-equipped laboratories and competent pathologists the efforts will be successful. It is generally acknowledged that the strength of Germany and other European countries in medicine, in the broad sense, rests largely on the prominence given the laboratory as a necessary department of a large hospital.

While such laboratories are primarily designed as aid to the medical and surgical work of hospitals, they are also means of advancing knowledge of the subjects with which they deal. The number of interesting and important special studies pursued under Dr. Wright's charge, makes a decidedly creditable showing and clearly demonstrates how such laboratories help to make hospitals useful in the widest sense and factors of great consequence in building up medical knowledge. The trustees of the Massachusetts General Hospital are to be congratulated on the foresight and wisdom they show in fostering laboratory work, and in connection with the other work of their hospital, and it is to be hoped that other hospitals will soon follow the good example they have created. Let it be thoroughly understood that a hospital of any size, without a properly-equipped laboratory in the charge of a competent director, is not doing and can not do its full duty to its patients, to its supporters, and to humanity at large, and the present unsatisfactory condition of things will change for the better. Endowments and appropriations for this good purpose can be secured elsewhere as well as in Boston. The way in which such matters are conducted is a good index of the intelligence and the spirit of the man, medical and non-medical, in a community. It goes without saying that in no way can the medical profession better strengthen its own cause than by securing as many complete and well organized hospitals and similar institutions as possible. There is abundant room for advance in the mere organization of the work of the staffs of many of our hospitals, and in the scramble for position this important work has been much neglected in the past.

THE OHIO MEDICAL PRACTICE ACT.

The passage of the Love bill, by the Ohio legislature, is evidence of the influence that the medical profession can exert in a state when it is duly aroused. There was a vigorous and determined opposition to the movement for medical reform, and an active lobby working against the bill. The newspapers, or at least a large part of them, threw their influence against it, and all the forces of quackery—osteopathy, "Christian Science" and other kindred delusions—were worked their utmost for its defeat. The osteopaths were especially energetic in their endeavor to legalize their practice, but their bill failed to pass and the most they could get was admission to practice on passing examination in the requisite branches. We doubt whether the Kirksville, Mo., institution will turn out many qualified practitioners for Ohio, unless it mends its ways. The power of the 8000 physicians in Ohio was made to be felt by the politicians, and the result should encourage those in other states where medical reform is needed. The unfortunate movement of the medical students—also previously noted in The Journal—which appeared to possibly threaten the success of the bill, also came to nothing practically, and the legal status of the medical profession in Ohio, as a contemporary[1] puts it, "is in better form than ever before in the history of the state."

A MALARIA EXPERIMENT.

The British Government, it is said, is about to inaugurate an interesting experiment of a kind that ought to make the antivivisectionists indulge in one of their customary howls. It is directly in the line of human experimentation, and as condemnable in its way as some of those that have recently given these philanthropists so much concern. It is proposed, so the report goes, to build a hut in the most pestilential spot of the malarial Roman Campagna, make it mosquito proof with screens, etc., and have two medical experts live there during the unhealthy season of May to October. The antivivisectionists may not object to this so far, but the subjects of the experiment are to have servants to wait on them and be exposed to the same risks without having the stimulus of scientific zeal or the hope of honor or reputation. If these four persons do not acquire malaria, it will prove that it is avoidable with proper precautions. As a further proof it is proposed to breed the malaria-bearing mosquitoes, feed them on infected individuals and then transport them to England and have them there inoculate individuals who have never been otherwise exposed, who are expected to develop the disease. If this report is correct, no one can really deny the possible value of the experiments, but the humane societies will probably have their say about it, and would prefer to have mankind go on the good old way and get bitten, "as Nature intended."

THE SUPERVISION OF MEDICAL COLLEGES.

The Superintendent of Public Instruction, of the State of Michigan, recently appointed Judge A. J. Mills, of Kalamazoo, and Dr. F. F. Pitcher, of Detroit, as a commission to visit and report on the medical colleges in the state. They have made their report and, while they put the stamp of their disapproval on the policy of chartering private medical colleges, they suggest certain regulations to be followed in case such a policy is continued. Among these are a fixed standard of preliminary qualifications and graduation and examinations by independent boards for both, the assurance of the financial responsibility and adequate teaching resources of the institutions, and a constant and thorough inspection of them by competent official visitors. They further recommend the refusal of charters for medical colleges in small towns where the medical, clinical and hospital facilities are not ordinarily found. These suggestions are sensible and should be also practical, and, if followed out, will certainly tend to improve matters. This country is suffering from a surplus of medical education, the quality of which is often correspondingly deteriorated. While a certain proportion of our medical colleges are approximately what they should be, there are many that could well be spared, and some of the genuine "cheap and nasty" type. Yet they all turn out M. D's. and, so long as they exist, there will be a surplus of doctors, such as they are. The filtering process of state examinations, if sufficiently rigid, will help matters, but it would be a still further advantage if we could purify the fountain-head by strict state supervision, as proposed by this Michigan commission.

---

[1] Cincinnati Lancet-Clinic, April 21.

ALCOHOLISM IN MEXICO.

According to an exchange,[1] which from contiguity might be expected to be well informed, alcoholism is making startling strides in Old Mexico. The alcohol habit, it says, is reported to be rapidly spreading to all ranks of Mexican society and the mortality statistics which come from the superior or national health board show, for each year, a steady increase in the number of deaths from cerebral congestion due to alcoholism. The national government has, it is said, become alarmed at this showing, and the increase of poverty and crime that goes *pari passu* with this cause. This increase of alcoholism among the Latin races has also been reported elsewhere, and if we include France among them, it has become one of the more serious problems of their civilization. When the local alcoholic drinks heretofore prevalently used among them are supplanted or supplemented by those of the Anglo-Saxon, the danger-point is brought within the vision of those who had before ignored it. It is an unfortunate fact that wherever the northern races go they carry their vices with them, and the American and English bar is one of the most active factors in their conquering advance. Mexico will do well for herself if she puts a check on the development of this special feature of modern civilization.

PROVISION FOR CONSUMPTIVES.

In view of the influx of indigent consumptives into Colorado, some benevolent gentlemen of that state are reported to have projected a novel sort of institution which will combine the characters of a consumptive sanitarium and a self-supporting farm colony. It is needful they claim, in order to obtain the full benefit of the Colorado climate, to exercise the body and fully inflate the lungs with the rarefied air, hence outdoor occupation is desirable. The design is therefore to furnish light employment which will enable the not-too-far-gone consumptive to maintain himself while obtaining at the same time the full benefit of the aseptic and stimulating atmosphere. The promoters of the proposed establishment therefore are aiming to secure land near Denver, which they propose to lay out in market farms and gardens for the use of weak-lunged patients. The plans as given out are not detailed in full, but it would seem that the colony idea is most prominent, though the hospital or sanatorium feature will probably not be neglected. The intention is said to be to furnish a means whereby a man or woman can secure the best accommodations and medical attendance at moderate cost, and can, if they are able, earn enough or more to pay their expenses. As yet the project is only embryonic, but it is to be hoped that it may develop and mature to meet the fullest expectations of its projectors. If successfully carried out it ought to be a most beneficent aid to a large number of sufferers, and may also help to relieve the congestion of the cities of the state by needy consumptives. The chief mover in the enterprise is, apparently, the state secretary of the Y. M. C. A., W. M. Danner, who estimates that about $100,000 will be required to carry out the project. He thinks that as patients are sent from all parts of the country it is only fair that other regions thus contributing should respond to the appeal.

PATHOGENESIS OF EXOPHTHALMIC GOITER.

Two views in particular have prevailed in the past with regard to the pathogenesis of exophthalmic goiter, according to which the symptoms were considered dependent on disease of the cervical sympathetic, or of the medulla oblongata; but no constant lesion has been found, and such as have been discovered have been present also in association with other conditions. It has been shown experimentally that section of the cervical sympathetic is attended with dilatation of the blood-vessels of the head and neck, retraction of the eye-balls, drooping of the eyelids, contraction of the pupils; stimulation of the central extremity, with contraction of the blood-vessels, protrusion of the eyeballs, retraction of the eyelids, dilatation of the pupils; and stimulation of the peripheral extremity, with increased action of the heart. For the development of the symptoms of exophthalmic goiter through the agency of the cervical sympathetic it would therefore be necessary for some fibers to be in a state of paralysis, and others in a state of irritation. Certain other nervous, respiratory and circulatory symptoms would, however, be left unexplained on the assumption of disease of the cervical sympathetic solely, while within a small area on the floor of the fourth ventricle are situated structures—the vasomotor, the cardiac accelerator, the pneumogastric, and the diabetic centers—derangement of whose function would give rise to many of the symptoms of exophthalmic goiter. It has been further demonstrated experimentally, that division of the restiform bodies is attended with acceleration of the heart, exophthalmos, vasomotor paralysis in the ears, neck and thyroid gland, *widening of the palpebral fissure, infrequency* and incompleteness of winking, and sometimes enlargement of the thyroid gland. fifteen y ago it was found that improvement in the symptoms of exophthalmic goiter followed partial or total removal of the thyroid gland, and the operation has since been repeated successfully in a considerable number of instances. It was not, however, until some years later that the conclusion was reached that the manifestations of exophthalmic goiter are probably dependent on deranged functional activity of the thyroid gland, as a result of which either toxic substances are sent into the blood or toxic substances present are not neutralized by an internal secretion of the thyroid gland. Subsequently, however, hypertrophy of the gland was found, and it was definitely concluded that the symptoms of the disease were dependent on intoxication resulting from excessive secretory activity of the thyroid gland. Further, it was learned that similar manifestations could be induced artificially by the excessive therapeutic administration of thyroid gland. More recently resection of the cervical sympathetic nerve has been practiced in some cases of exophthalmic goiter, with reported success. Additional confirmation of the view that the cervical sympathetic is involved is afforded by some observations recently made by Haskovec,[1] who found, experimentally, that acceleration of the action of the heart takes place after injection of thyroid extract when the vagus is divided and when also the peripheral extremity of the nerve is paralyzed by atropin. The cardiac acceleration failed to take place, however, when thyroid extract was injected after division of the spinal cord at the junction of the cervical and dorsal portions, and also after excision of the cervical sympathetic. The only reasonable conclusion to arrive at from the available evidence is that exophthalmic goiter is a constitutional thyroid intoxication expending its force especially on the sympathetic nervous system and the medulla oblongata.

---

[1] Texas Medical News, April.

BACTERIOLOGY OF LOBAR PNEUMONIA IN TYPHOID FEVER.

While the bacillus of typhoid fever has been repeatedly isolated from the consolidated lung in typhoid fever, it has not been successfully demonstrated in the sputum during life, though sought for by competent men. It is therefore of interest to note that v. Stühlern[1] was able to secure this organism as well as the micrococcus lanceolatus in pure culture from the sputum of a typhoid patient in whom consolidation of the lower left lobe developed on the tenth day of the disease. Bacteriologic examination of the blood gave negative results. In a second fatal case of pneumonia developing in the fourth week of the fever, cultures of typhoid bacilli, micrococcus lanceolatus, and staphylococcus were obtained from the sputum and from the fluid aspirated from the affected lung. In this case also the blood remained sterile, but the urine contained typhoid bacilli. Thrombosis of the femoral vein developed, and after death typhoid bacilli and staphylococci developed in cultures from the thrombus. Bacilli like the typhoid were found also in the sections from the pneumonic lobe. In a third case of this kind, examined bacteriologically post-mortem only, typhoid bacilli and diplococci were demonstrated in the lung. An important fact in connection with the two first cases is this, that the sputum was decidedly hemorrhagic, and in the third case the affected lobe was hemorrhagic; v. Stühlern states that Curschmann has observed that the sputum is hemorrhagic in pneumonia complicating typhoid oftener than in pure pneumonias. Hence it would seem that perhaps this peculiar feature of pneumonia in typhoid is in some way dependent on the typhoid bacilli being present in the consolidated districts. It is to be remembered, however, that the hypostatic congestions of the lungs in typhoid may be the reason for the hemorrhagic sputum. At all events the fact remains that the sputum in typhoid may contain typhoid bacilli—an additional spur to the most careful disinfection of all the external secretions of typhoid patients. Indeed, it is just as essential to disinfect urine and sputum as it is to disinfect the feces on which formerly was laid so much stress. Perhaps more attention should be paid to perspiration also than has been given it.

Medical News.

We recently mentioned that the Paris Académie de Médecine had voted in favor of adding measles to the list of diseases required to be reported. "Infectious pneumonia and bronchopneumonia" are now on the list.

New Medical Journals.—Three new publications have just appeared: the international journal, *Lepra*, with articles in English, French and German, founded by James Nevins Hyde, Dehio, Ehlers, Hansen, J. Hutchinson and Neisser (J. A. Barth, Leipsic); a journal, published by Fraenkel, Gerhardt and von Leyden, devoted to questions concerning tuberculosis and sanatoria (Veit & Co., Leipsic); a third, a quarterly devoted to the scientific, unprejudiced discussion of the alcohol question, published by Baer, Boehmert, Strauss and Waldschmidt (Boehmert, Dresden).

The Hospital Ship "Missouri."—This ship, which for two years has done excellent service, first between Cuba and Porto Rico and the home ports and afterward between the Philippine Islands and the United States, has terminated her connection with the medical department of the Army. She has been transferred to the quartermaster's department, on the recommendation of the surgeon-general, as the Army Transport Service is now so well conducted that sick men can be brought across the Pacific in comfort on the vessels of this service.

Retirement of Colonel Alden.—Colonel Charles H. Alden, assistant-surgeon-general United States Army, who has been chief assistant to the Surgeon-General for the past seven years, was retired April 28, on account of having attained the age of 64 years, the age limit for active service. Dr. Alden was appointed an assistant-surgeon with the rank of first lieutenant June 23, 1860. Five years later he was promoted to a captaincy and, July 28, 1866, he was made a major and surgeon. He received his promotion to a lieutenant-coloneley in November, 1888, and to a coloneley in 1892. On the evening of April 25, last, a dinner in honor of this officer was given by the medical officers of the Army stationed in Washington, D. C., and at neighboring posts. On the evening of the day of retirement a reception was given by the Surgeon-General of the Army and Mrs. Sternberg, at which the medical profession of Washington had an opportunity to congratulate Colonel

---

[1] Wiener Med. Woch., January 6, p. 6.

[1] Centralbl. f. Bact., Abth. i, 1900, xxvii, 354.

Alden on the close of his long career of active service. This retirement promotes Lieut.-Col. Albert Hartsuff to the rank of colonel, Major Charles L. Heizmann to be lieutenant-colonel, and Captain and Assistant-Surgeon Edward Everts to be major and surgeon, U. S. A.

PROGRESS OF THE PLAGUE.—According to the *British Medical Journal* of April 21, the mortality from plague subsided considerably in Bombay during the last week of March and gave evidence that with the approach of hot weather the health statistics are slowly approaching normal. In Calcutta, the death-rate has run up with appalling rapidity, being, from March 22 to 28, respectively, 112, 156, 116, 148, 138, 119, and 129. The well-to-do natives are still leaving the city in large numbers, so that trade is greatly disturbed and "the markets are dead." The plague, however, is confined for the most part to two wards and fresh cases in disinfected houses seem to be extremely rare. But notwithstanding the fact that considerable success has attended the attempts to popularize inoculation for plague in some districts, the disease is still carrying off about 5000 every week in India, and causing unrest and disturbances in important centers because of the preventive measures which have to be adopted. Editorially, *The Lancet* of April 21 tells of a serious riot where the militia had to be called out because the people had set fire to the segregation camp and thrown the bodies of five of the policemen who had opposed them into the flames. During the week ending April 12, there was only one new case on the Island of Mauritius, but Formosa reported eighty-three. In Buenos Ayres there are still a few cases, while Ascuncion has reported none during the last twenty-five days.

NEW YORK.

THE TWENTY-FIFTH annual meeting of the Alumni Association of the Medical Department of the University of Buffalo was held the 27th ult., and the commencement exercises of this institution the same evening.

DR. EVAN BARKER JONES, Brooklyn, has been authorized by the courts to change his name to Barker, in order that he may become heir to $200,000 left him by a great uncle on condition that he would assume his surname and coat of arms.

HOSPITAL MANAGEMENT.

The signing of the Burnett bill, by Governor Roosevelt, means the beginning of important changes in the management of the Manhattan and Long Island state hospitals for the insane. It is generally understood that back of this bill, which has now become a law, has been the influence of the State Commission in Lunacy, and the measure has been urged in the interest of economy, it being alleged that the new plans contemplated by this bill would effect a large saving in the matter of unnecessary salaries. Four medical superintendents are summarily legislated out of office, viz.; Dr. A. E. Macdonald, general superintendent of the Manhattan State Hospital, on Ward's Island; Dr. Oliver M. Dewing, general superintendent of the Long Island State Hospital, at King's Park; Dr. Robert M. Elliott, medical superintendent of the old hospital at Flatbush, and Dr. Herman C. Evarts, medical superintendent of the hospital at King's Park. Under the new law the Manhattan State Hospital will be divided into a female division, a male division and the Central Islip colony. The Long Island State Hospital will be divided into two separate institutions, one at Flatbush, and the other at King's Park.

New York City.

DR. ABRAHAM JACOBI, having reached the age of 70 years, the students of the College of Physicians and Surgeons recently presented him with a silver cup. He intends going to Paris shortly to read a paper on "Infant Feeding," at the International Medical Congress.

DR. H. W. WILEY, chief of the Division of Chemistry, U. S. Department of Agriculture, Washington, D. C., delivered an address on "Food Adulteration and its Relation to Public Health," at the first anniversary of the Hundred Year Club, held the 24th ult.

MEDICINE IN MISSIONS.

The questions of the advisability of training natives in medical lines and where they should be trained received considerable discussion at a recent meeting of the Ecumenical Missionary Conference. Dr. Edward S. Fry, of Edinburgh, expressed the opinion that the native agency for medical missions is as important as any other, and that the best method of training the natives will depend on existing conditions, but in most cases they should receive their instruction in their own country. Dr. A. P. Peck, dean of the medical department of North China College, spoke of the training in mission hospitals. Dr. John C. Berry, Worcester, Mass., from his experience while stationed in Japan, pointed out that trained nurses are almost as important as trained physicians in medical missions, and disapproved of taking natives to Europe or America to study medicine. Dr. Moses C. White, New Haven, Conn., favored training them in America, and pointed out that the impracticability of dissection, etc., in certain countries makes such training all the more necessary.

PHYSICIAN SUES INSURANCE COMPANY.

Dr. Sidney H. Carney, who for many years was in the employ of the New York Life Insurance Company, brought suit against that company some months ago for $168,000, claiming that he had been wrongfully discharged, and that he had an oral contract whereby he was to be a salaried expert for life. This contract was entered into in 1869, the agreement being that after the third year his salary should remain at $6000 until changed by the parties of the contract. He was discharged in 1895, at which time he was drawing a salary of $12,000 a year. By mortuary tables it was estimated that he should live for fourteen years more, and accordingly suit was brought for $168,000. Judge Haight, of the supreme court, dismissed his complaint of breach of contract, and an appeal was taken. The appellate division has just handed down an opinion, sustaining the previous decision. The defendant denied that there was a life contract, and asserted that it was void by the statute of frauds.

STRANGE AFFECTION OF MEMORY.

A young student of law recently forgot who he was, and wandered about the city endeavoring to discover his identity and where he lived. He visited the Astor Library and several hotels in quest of information, and finally walked into a police station, and, in a bright, clear voice, astounded the sergeant at the desk by the query: "Can you tell me who I am?" "Where I am, and to whom do I belong?" The sergeant told him he was in New York City, and tried, but in vain, to get the young man to recognize some of the well-known office buildings. Finally, in a sad and somewhat discouraged manner, the young man said: "Could you tell me if there is a young man missing that looks like me?" He was directed to police headquarters, where he repeated this question. A search of the records of those missing showed a description answering that of the inquirer, and accordingly a detective was sent with him to the address given, where his mother and sisters were almost overcome with joy at seeing him again. He did not, however, understand their emotion, and asserted that he did not know them nor the place. When questioned by his physicians, he wrote answers promptly to inquiries regarding persons with whom he had had business dealings, but any reference seemed to be a signal for his memory to fail him again. At latest account he was slowly recovering from his amnesia.

REPORTING CONTAGIOUS DISEASE.

The Health Department is stirred up over the published assertion of Virgil Prettyman, principal of the Horace Mann High School, that the health authorities have been negligent in reporting cases of contagious disease. He charged that out of 20 cases of measles in his school, only 3 had been reported to him by the Board of Health, and only 2 out of 7 cases of scarlet fever. Dr. F. H. Dillingham, asistant sanitary superintendent for the Borough of Manhattan, promptly set on foot an investigation, but was hampered in his work by the fact that some of the cases dated back to January. However, according to Mr. Prettyman, at least 8 cases of measles had occurred in the present month, and 6 in March. He said that he would not have made such charges in a circular letter addressed to the city newspapers, had it not been that for the past two years he had been protesting to the Board of Health, without result. By a system of coöperation between the Board of Health and the Board of Education, the public schools daily receive a list of those in each district who are sick with contagious disease, or who have been exposed to contagion, and who, therefore, are to be excluded from school until readmitted by certificate from the former Board. While the private schools, being out of the jurisdiction of the Board of Education, do not receive notices from that source, the inspectors of the Health Department are supposed to notify these schools directly concerning every case of contagious disease coming under their notice.

PENNSYLVANIA.

Dr. T. Leidy Rhodes, of Boystown, has been appointed a surgeon in the army and has gone to Manila.

Two men living in Norristown, who were conducting a grocery store, were recently arrested and fined $100 each for selling oleomargarin.

At Chester, on the 23d ult., the J. Lewis Crozer Home for Incurables was formally opened. The home was erected at a cost of $47,000, is three stories high and has 112 rooms, and accommodation for 160 patients. Dr. T. P. Maddox has been appointed chief surgeon.

Philadelphia.

Drs. Jacob and Frederick DaCosta will spend the summer months at Villanova.

By the will of Lambert Ware $60,000 will eventually revert to the Germantown Hospital and Dispensary.

A board composed of women has been organized by friends of the St. Joseph's Hospital, to aid in the work of that institution.

Establishment of a systematic instruction of physical culture in the public schools is being considered.

By the will of Rebecca Emslie, $1000 has been given the Pennsylvania Hospital, and $5000 to the Episcopal Hospital.

Dr. W. T. Councilman, of Boston, delivered an address at the last meeting of the John Ashhurst, Jr., Society, on the "Pathology of Diphtheria."

At the last meeting of the Medicolegal Society, Dr. J. Madison Taylor gave an address on "Hypnotism and Some of its Medicolegal Aspects."

The late Dr. Amy S. Barton left her medical and surgical instruments to the physicians who attended her during her last illness.

At the recent annual converazione of the College of Physicians, an interesting exhibit was made of microscopic specimens, and a demonstration given on photographing in colors.

A circular has been issued by the Journeymen Plumbers' Association, to be sent to physicians, life insurance companies, etc., for the purpose of securing improved sanitary arrangements in the residences of Philadelphia. It is believed that insanitary ones have caused the spread of contagion, especially diphtheria.

A resolution was passed at the last meeting of the Philadelphia County Medical Society, in favor of giving graduates of literary colleges, who enter medical colleges, credit for the elementary work already done, and that they be admitted to advanced standing.

MORTALITY STATISTICS.

The number of deaths occurring in the city during the week just closed was 618, a decrease of 121 from that of last week and an increase of 117 over the corresponding period last year. The principal causes of death were: apoplexy, 12; cancer, 10; tuberculosis, 54; influenza, 19; measles, 31; pneumonia, 129.

ACT OF A DEMENTED PATIENT.

A physician recently had a most unfortunate experience with a demented patient who had called at his office. Some time ago he had treated a woman for an ear affection, and after a considerable period she again called at the office and, on being greeted with the words: "What can I do for you, madam?" she said, "I'll show you what I'll do for you," whipped out a pistol and began firing at the doctor. After five shots she walked into the street, and was arrested. It is believed that she is demented. On being questioned, she said she had been prompted by Divine Providence.

MARYLAND.

Drs. Charles Mattfeldt and J. C. Schofield have been appointed sanitary officers of Baltimore County.

Baltimore.

At the commencement exercises of the University of Maryland, May 1, sixty-five received the degree of M.D.

Dr. Claude Van Bibber has been appointed vaccin physician.

Dr. F. J. Kirby, superintendent of St. Joseph's Hospital, sailed on the 28th ult. for Europe, where he will remain till autumn.

Dr. John S. Billings, New York City, delivered three lectures on "The History of Medicine," at the Johns Hopkins Hospital, recently.

Two cases of smallpox, from a hospital in the northeast section of the city, were moved to the quarantine hospital on the 27th ult. This makes 12 cases, and another suspicious one is under surveillance.

Dr. Otto Gustaf Ramsay, instructor in gynecology, Johns Hopkins, has been elected associate professor of gynecology in Yale, and it is said that he will accept.

For the week ending April 28, the death-rate was: whites, 19.31, colored, 33.33 per 1000. Pneumonia caused 25, consumption 28, la grippe 4, and typhoid fever 3 deaths.

The twenty-eighth annual commencement of the College of Physicians and Surgeons was held on April 24. The Alumni Association had its annual meeting, with music and "a smoker," the evening of the 23d. Dr. W. F. Smith was elected president.

The library of the Maryland Medical and Chirurgical Faculty now contains 13,000 volumes, 803 being added during the year; 138 journals are taken. There were 3908 readers during the year, and the expenses were $984.60.

ILLINOIS.

Chicago.

The staff of the Maurice Porter Children's Hospital has been increased by a large number of recent appointments.

The competitive examinations for interneships at the Presbyterian Hospital will be held May 10.

HOSPITAL APPOINTMENTS.

As a result of the recent examination for interneships in the Cook County Hospital, the following have received appointments: Drs. Loeb, Sears, Jakobowski, Kerr, Friedman, Failon, Wendstrand, Hultgen, Tyndale, Cubbins, McNeil, and Riebel. The appointees for the first, fifth and ninth places were from Rush Medical College, those for the second, third and fifth places were members of the College of Physicians and Surgeons, and the other six were from the Northwestern University Medical School. The period of interneship is eighteen months.

NEW JERSEY.

At the hospital fair held at Paterson, April 22, $7000 was raised.

Dr. A. Arling Head, of Mulford, has been appointed physician of Holland and Alexandria townships.

Prof. John J. Mulvaney, president of the Jersey City Board of Education, in his recent report recommends that a corps of physicians be appointed to look after the health of school children.

DISTRICT OF COLUMBIA.

The House committee on interstate and foreign commerce has authorized a favorable report on House bill 9677, known as the Brocius pure food bill.

The report of the health officer for the past week shows the total number of deaths to have been 137, 81 of white and 56 of colored persons. At the close of the week there were 64 cases of diphtheria, 68 of scarlet fever, and 7 of smallpox under treatment.

OHIO.

THE GRADUATING class of the Toledo Medical College numbered 18, the commencement exercises being held the 26th ult.

THE ANNUAL meeting of the Alumni Association of the Ohio Medical University, Columbus, was held April 24. Dr. C. S. Means was elected president for the ensuing year. The commencement exercises of this school were the same date.

DR. ERNEST SCOTT has been appointed to succeed Dr. H. S. Cozad, at the state hospital, Columbus. Dr. Cozad has gone to Europe for a year of special study.

MICHIGAN.

THE GRADUATING exercises of the Michigan College of Medicine and Surgery, Detroit, were held the 24th ult. There were 25 degrees conferred.

THE APPLICATION of "Dr." Richard Metcalfe of Benton Harbor, for a mandamus to compel the new State Medical Board to register him under the law of 1899, has been denied by the supreme court. This rules out all graduates of medical schools which issued diplomas without requiring attendance.

TENNESSEE.

THE ALUMNI association of the Chattanooga Medical College held a meeting April 24. The graduating class, at the commencement exercises of this institution, numbered fifty-nine. Dr. G. M. Ellis delivered the faculty address.

COLORADO.

AT THE commencement exercises of Gross Medical College, Denver, held April 26, the degree of M.D. was conferred on 22 persons.

IOWA.

THE COMMENCEMENT exercises of the Keokuk Medical College and College of Physicians and Surgeons were held recently. Diplomas were awarded to 42 students.

KANSAS.

A NEW HOSPITAL, costing $60,000, is to be erected at Fort Leavenworth.

Topeka.

THERE WERE six cases of smallpox in the Topeka pest-house on April 23, with five due to arrive the next day.

DR. L. H. MCKINNEY has filed a claim of $150 with the city council for damages alleged as a result of the improper fumigation of a residence by the city health officers. He moved into the house after it had been fumigated, and his whole family contracted smallpox soon after.

GOVERNOR STANLEY, in outlining his future policy, has said that the State Board of Health is an unnecessary adjunct of the state, and that the work now done by the Board, consisting of fifteen members, could be done just as well by the secretary alone, who should have all the authority and power now conferred on the Board.

CALIFORNIA.

Alameda.

The Board of Education has adopted a rule forbidding the employment, as teachers in the public schools, of any persons afflicted with tuberculosis.

San Francisco.

THE CITY'S Board of Health has acted favorably on the recommendation of the Los Angeles Board and will do all in its power to secure the necessary legislation for deportation of all lepers who may be found in this country.

A NEW PLAGUE CASE.

(Special Telegraph to THE JOURNAL, *May 1.)*

Another case of plague has been found in San Francisco, in a Chinaman whose body was found April 25 in the Chinese quarter, with a large bubo in the left side, near Poupart's ligament, and with the other inguinal glands swollen. The news was successfully kept from the press by the Board of Health, and smear preparations made. These disclosed the bacillus pestis. Two guinea-pigs were inoculated from gland tissue and one died fifty-eight and the other sixty-one hours after. Both pigs presented the characteristic lesions of the plague. Extraneous organisms seen in the glands were also present, but in small numbers, while the plague bacillus was present in enormous numbers. The identity of the latter has also been demonstrated by culture methods, by Drs. Ophuls, Montgomery and Kinyoun, all agreeing in the diagnosis made. The Chinaman has lived in San Francisco thirty years and was 56 years of age. No clinical history could be obtained.

AUSTRALIA.

IN VICTORIA the crusade against rats has extended even to the remote country districts, and a sanatorium for plague patients, to be erected by the government, is proposed.

THE GOVERNMENT has decided to establish depots at all the centers of Auckland for the free distribution of phosphorus and other poisons used in exterminating the rats.

SYDNEY'S PLAGUE.

The plague cases up to the date of this letter (March 19) number twenty-three, with eight deaths. The first case was reported in January. Up to March 17, more than one thousand persons had been inoculated with Haffkine's prophylactic serum, most of these being engaged in waterside occupations. A few hours following the inoculation slight headache and feverishness have been noted, but no illnes of any note followed injection. Dr. Ashburton Thompson says that as the plague has gained a foothold in the colony it will not be entirely eradicated for many years. He does not mean that the epidemic will be continually maintained at a high average of cases, but that it will recur at certain seasons. The average duration of each visitation will probably be about eight months. He says that the absolute annihilation of all rats would be followed by entire removal of all infection, but as it is not possible to rid the land of the rodents the disease must remain. The department of health is planning the production of the remedial serum in the colony, but it will be some months before the first results can be obtained. The proposition to erect a special plague hospital for the metropolitan districts has been given up for the present. The dirt and refuse of the city is collected by the city and carried daily, by punt, as far out to sea as the weather will permit, and the government has agreed to bear a large share of the cost of cleaning the city. The opinion of Dr. Thompson is that the only reparation that can be made for long neglect is the obliteration of all existing wharf structures and the erection of solid wharf frontages which will be not only impervious to water but proof against invasion by rats. The campaign against rats was begun late in February. All of the men engaged in the work of extermination being first required to subject themselves to inoculation with prophylactic serum. Posters were also placed in the portions of the city most likely to be invaded by the disease, and a house-to-house distribution of hand-bills carried out.

HAWAIIAN ISLANDS.

THE HILO Board of Health has been considering quarantine against Honolulu goods, in spite of the fact that Honolulu's plague is practically a thing of the past.

ACTION HAS been taken by the minister of foreign affairs which places Sydney, N. S. W., from now on in much the same quarantine relations relative to the Hawaiian Islands as exists between Honolulu and the mainland ports.

PROPOSED HOSPITAL FOR JAPANESE.

A plea has been made to the public for donations for the purpose of building a hospital for Japanese subjects on the Islands. The proposed cost of the institution is $6500. Early last year the Japanese Benevolent Society considered building a permanent charity hospital, but the matter was given up and a private one erected by a Japanese physician, this being closed at the time of the plague epidemic.

LOSSES FROM THE PLAGUE.

The Council of State recently passed a resolution to the effect that the Hawaiian Government should pay all just claims for losses caused by the action taken by the Board of Health in connection with the suppression of the plague, i. e., those caused by the burning of houses, furniture and goods by direct order of the Board, as [illegible] cau[illegible] [illegible] dental spread of the fire, and those caused by the fencing up of land on which houses have been burned. The Council also advised the appointment of a new Court of Claims (see last week's Journal, p. 1081) to consist of five members, three of whom shall be business men.

HONOLULU'S PLAGUE.

Up to the date of this communication, April 19, there have been no cases of bubonic plague since March 31, and with no cases to May 1, on that date the quarantine by the local board of health will be raised. The plague, which first appeared about four months ago, may therefore be said to have been practically stamped out, there having been only one death per week therefrom during the past six weeks and none during the past twelve days, while the deaths from consumption and pneumonia have averaged fifteen or twenty a month. The cases to date number 71, with 62 deaths. Of these, 17 were cared for in the pest-house, with 9 recoveries. The shipping business of the port has been seriously interfered with by the epidemic, and no communication is yet permitted with the sections of the city in which the deaths occurred. The buildings occupied by Asiatics and others as dwellings and shops, burned on account of the plague raging there, numbered about fifty. Fortunately the sugar plantations are from ten to seventy miles from the city, and no communication has been allowed with them except by telephone. They have therefore remained strictly free from contact with the disease, and the sugar has been shipped direct from the mills to the vessels, the latter not being allowed to go within certain limits. Examinations from the soil, etc., reveal bacteria present, but none of bubonic plague. Other examinations of foodstuffs preserved in acidulated liquids show them to be free from bacilli. Too much credit can not be given Dr. Wood, of the Board of Health, for the work done in stamping out the disease.

CANADA.

SMALLPOX IN WINNIPEG.

Smallpox of a very virulent character has broken out in the General Hospital, Winnipeg. Five cases have so far developed, but it is impossible as yet to foretell the extent of the exposure. The man who brought the disease to Winnipeg was taken to the hospital in a hack and, after his death, the body was handled by the undertakers, who did not know the nature of the death. Subsequently his effects were handled by several people in and about the hospital, and the first thing the medical health officer of the city, Dr. Inglis, knew, he had five cases of smallpox to deal with of a very malignant type. These have been removed to the quarantine station, and this as well as the hospital is now being guarded by special constables. Vigilance will be the motto of the authorities for the next few weeks.

AMALGAMATION OF TORONTO AND TRINITY.

The controversy between these two rival institutions has assumed a new phase. In the April issue of the *Canada Lancet*, a journal markedly in touch with Trinity Medical College, the editor and one of the associate editors come out squarely for the amalgamation of the two schools. Their cue has no doubt been taken from an interview appearing in the daily press, accorded by Dr. Adam H. Wright, professor of obstetrics at Toronto University, who has placed himself on record as being in favor of closer relations between Toronto and Trinity. Then there is the fact also that Trinity University is about to seek federation with Toronto University—the provincial university, and when such federation is accomplished, and Trinity University relinquishes her degree-conferring power, Trinity Medical College will have to look elsewhere for her M.D. degrees. The editorial in the *Lancet* does not deny that Trinity's cause is a righteous one; but expresses the opinion or rather belief that the amalgamation of the two institutions would be "the best solution of the existing difficulty," that it would do away with jealousies stated to exist between practitioners who are connected with these institutions, which also is at times evidenced in the societies as well as in general practice, and further, that medical education would be placed on a more permanent and lasting basis than it is at present in Ontario. Another reason advanced for the proposal of amalgamation is that this city could then proceed to do post-graduate work: that the men who now go abroad would be accorded advantages at their doors which would induce them to stay at home. There is no doubt that the present time is an important one in the history of medical education in this province; and as the legislature has prorogued without taking up the McKay bill again, the intermission will probably see the discussion of the whole question in all its bearings, and the outcome will be awaited with considerable interest, not unmixed with some anxiety for the proper adjustment of the whole question.

PECULIAR HOSPITAL METHODS.

A private hospital, said to be located in the State of Michigan, whose commercial instincts have no limitation so far as distance in "miles" is concerned, has been endeavoring within the past week or two to entrap some Toronto physicians, ostensibly to secure their appointment on their "staff," but really for the purpose of fattening their own revenues. The plan of campaign was for the surgeon or physician here to act as agent for the concern in Michigan, to whom patients were to be suggested; these would then be written to and, if secured, the surgeon here was to participate in the profits to the extent of one-half. The following is a copy of a letter sent to a "patient" here:

"Dear Sir or Madam: We beg respectfully to call your personal attention to the fact that we have just recently elected and appointed Dr. ——of your place to be a visiting and consulting physician and surgeon on the medical staff of our hospital, on acount of his excellent medical qualifications and professional standing. We have no hesitation in recommending him to you, and should you, any member of your family, friends or acquaintances become sick and desire medical treatment, we wish to highly endorse the Doctor and recommend you to patronize him. Should you at any time desire the services of our hospital for yourself, friends or acquaintances, the Doctor will make arrangements with you so that you can come here for treatment. We have a first-class up-to-date surgical hospital, with every home comfort and a medical staff of eminent physicians and surgeons, and our charges are less than anywhere else you may go. Trusting you will bear these facts in mind, believe us to remain."

A further additional inducement to the Doctor to seek appointment on this "wonderful" institution was the presentation of a lithographed certificate of membership to the physician himself, 17x22 inches, rated in price according to the quality of paper and the beauty and design of the scroll, at $5, $7.50, or $10. The income from this source was to go into funds which "are devoted to the maintenance of the hospital for the benefit of us all." We do not think that this "up-to-date" institution has been able to land any "suckers" in Toronto.

Montreal.

Dr. James Barclay, lecturer and demonstrator in obstetrics at McGill University, has entered on his duties there.

Two cases of smallpox have appeared within the past week. The first arrived from Rossland, B. C.

Dr. A. Lapthorn Smith has retired from the Montreal Dispensary, after a service of twenty years. He will continue as surgeon-in-chief of the Samaritan Hospital, surgeon of the Western Hospital, consulting gynecologist of the Women's Hospital, and professor of clinical gynecology at Bishop's College.

A LITTLE NONSENSE NOW AND THEN, ETC.

Generations of graduates of medical McGill, scattered over Canada and the United States, have not forgotten the boys' factotum, Mr. James Cook, or "Cookie," as he is affectionately called by those whose letters, caps and telephone messages he looks after. It is now an annual affair amongst the medicos of McGill, just prior to taking their departure for the summer holidays, to make a presentation to Mr. Cook, in the way of coin and an elaborate illuminated address, in which superabundant flattery and adulation predominate. This year "Cookie" was presented with $30 in five-cent pieces, all snugly stowed away in a big box of ashes, supplemented with an address, which was headed as follows: *To Sir James Rip Van*

Winkle Cook, Knight Commander of the Vats, First Lord of the Treasury, President of the Ancient and Illustrious Order of Prevaricators, Lord Warden of the Vault, and Premier of the Dominion of Aesculapius. Mr. Cook, who was dressed in a grand military outfit for the occasion, responded at considerable length in a poem. Afterward a procession was formed and the devoted attendant was shouldered up and down and around the College grounds.

Correspondence.

Medicine in the Far East.

March 30, 1900.

A CEYLON HOSPITAL.

To the Editor: During my stay at Colombo, on the Island of Ceylon, I frequently visited the civil hospital of that place and saw considerable of the medical work done there. This institution has accommodations for 350 patients. The buildings are situated in a beautifully shaded grove of cocoanut palms, and are disconnected pavilions, flanked on each side by open verandas, on to which large windows, for their perfect ventilation, open. There is a medical school connected with this hospital, where seventy-five young men are being educated. The faculty is composed of English, Dutch half-breed and pure Ceylonese natives, and represent all shades of complexion, from the fair-skinned Anglo-Saxon to the Singalese as black as the Congo negro. The color line seems not to disturb the harmony of this mixed body of teachers in the least, but the Dutchman's hatred of the Englishman, since the outbreak of the South African war, I saw manifested on more than one occasion. The students, however, were all dark-skinned natives of the island, and on the whole impressed me as a set of men superior to those I met studying medicine in India.

Before beginning their studies, these men have to pass a preliminary examination that is equivalent to that required to enter the freshman class at Oxford. They have a five years' graded course, and after completing this many of them go to London or Edinburgh to pursue advanced studies.

NO BERI-BERI IN CEYLON.

It is a strange fact that, while the climate here in Colombo is so like that of southern China, I never saw a single case of beri-beri on the island of Ceylon.

ANCHYLOSTOMIASIS.

I saw in the above mentioned hospital my first case of anchylostomiasis, a parasitic disease affecting the intestinal tract, especially the duodenum. The patients all had an aspect as if far gone with Bright's disease, added to which there was a decided jaundice appearance to the skin. The drinking of dirty water from marshes and stagnant pools is the source from which the disease originates. The treatment consists of the internal administration of thymol and iron. The mortality is from 40 to 60 per cent.

TETANUS IN CEYLON.

During my fequent visits to this hospital, I never failed to find a case of tetanus in its wards. A large percentage of these unfortunate patients were hostlers. Dr. Thomas, one of the surgeons, told me that they had found the soil about the horse barns, in Colombo, full of tetanus germs, and that when a man who attends horses gets an abrasion of the skin on any part of his body infection often follows. They treat from 25 to 50 cases of this disease annually, in this institution, which I believe is a larger number than is treated in any hospital of its size in the world. Patients of the acute class all die, while a few of those in whom the disease assumes a mild form at the outset and runs a chronic course, recover. They treat it here with the bromid of potassium, cannabis Indica and opium. It is, however, on the latter remedy that they place main reliance, and they give it to an extent that keeps the patient in a condition of deep narcosis.

NO DIPHTHERIA NOR SCARLET FEVER IN CEYLON.

Professor Sinnetawby tells me that he does not believe that there has ever been a case of either diphtheria or scarlatina on the Island of Ceylon. Here in the Far East I find that where one of these diseases is absent the other never prevails, which would seem to be an argument in favor of their common origin.

DIABETES MELLITUS.

I saw here a large number of cases of diabetes mellitus. The physicians tell me that in some sections of the island among certain classes of the population, one-half of the inhabitants suffer from glycosuria. Even the small land-holders in Ceylon lead a life of perfect idleness. If the proprietor owns a cocoanut grove of only four or five acres, and a rice field of the same size, he can live the kind of a life that he does without ever doing a single stroke of manual labor. His dwelling is an unfurnished, mud hut, to which he resorts only when it rains. He spends his days basking in the shade of a tropical grove, and hires, for a pittance, a coolie who runs at his bidding and attends to his every want. This man's diet is composed largely of rice, and to this class belong those who suffer so often from diabetes mellitus. On the contrary, the coolie, who serves this land-holder, and the jinriksha man, who plays the rôle of a horse, under the hot rays of a tropical sun, though they may both live on the same diet as the man who pursues a sendentary course in life, scarcely ever have this disease. The physicians in the hospital tell me that if early in the course of the complaint you can induce the sufferer to take an abundance of active exercise, you can in this way often arrest the disease. They treat the patient by eliminating rice and bread from his diet, but allowing the free use of meat, beans and vegetables that contain little or no starchy elements. As for medication, they rely entirely on nitric acid and opium.

INTESTINAL DISEASES.

Bowel complaints, consisting of diarrheas, dysenteries and the like, I found here as everywhere in the Far East, extremely prevalent. Dysenteric troubles often assume a chronic form and, despite all manner of treatment, run on unchecked for months or years. Here they treat the acute form of this trouble by first giving a free dose of castor-oil, and follow this by the administration of opium and ipecacuanha. The latter drug they give in large doses, often administering as much as 30 grains twice in the twenty-four hours. They claim that patients thus treated are less liable to hepatic abscesses and other sequelæ than those treated without this remedy. The chronic form of the disease they treat by keeping the patient on a milk diet, freely irrigating the lower bowel with a boric acid solution, and following this by a rectal injection of a rather strong solution of nitrate of silver.

The craze for opening the peritoneal cavity does not yet seem to have invaded the Island of Ceylon. I saw a myomectomy done for the removal of a subserous uterine fibroid as large as my fist. From the sensation produced among the hospital staff by this operation I concluded that operations of this kind were very rare here. In fact, the doctor who did the operation told me that there had never been a complete hysterectomy done on the island. Cases that require expert surgery, in this line, are sent to Madras to be operated on.

MEDICAL TEACHING IN CALCUTTA.

Calcutta is the medical center for all the vast empire of India. There are, however, medical schools at Madras, Bombay and Lahore; but by far the largest and most important of them all is the one located at the capital of British India. The medical class here numbers about 500 students. Before beginning the study of medicine, they have to pass a preliminary examination and the requirements are the same as at Colombo. I attended several clinics here, where I came in contact with these students, and while a few of them seemed bright and intelligent, the majority were a sorry-looking set out of which to attempt to make doctors. Their course of study is a graded one of five years, and as only about fifty are graduated annually their examination must be a quite rigid one. The teaching is all done in English, which I found many of the students with whom I conversed, did not understand perfectly. A professor told me that they were trying hard to cut the class down as they now had more students than they could properly teach. I asked him what fees these men would be able to command when they had finished their studies and began practice in a purely native community. He said that after furnishing their own drugs they would not get more than ten cents a visit on an average. The [illegible] of [illegible]al ed[illegible] in the British possessions in India is under one general law, and is therefore uniform. The professors in the medical colleges, as well as the surgeons to the various hospitals, all over the country, are officers in the English service, and receive no pay from the students they teach, or the hospital patients they attend. These men have, however, the right to carry on private practice when that does not interfere with their official duties, and in this way many of them earn large salaries. In India, though medical teaching and the granting of a diploma are under strict legal surveillance, there is no law preventing any one who chooses from practicing medicine. In fact, there are not qualified men enough in all this great empire to attend to the wants of the sick. Besides, associated with the healing of the sick, among the great mass of Indians there is a certain amount of religious ceremony with which, since the last mutiny, the British government seems little inclined to interfere.

CALCUTTA'S MEDICAL COLLEGE HOSPITAL.

To this institution, which contains 300 beds, only natives are admitted, and the sick are freely utilized as material for teaching. Diseases of the skin and gastrointestinal disorders were the prevailing complaints that I saw in the wards. Patients suffering from dysentery and hepatic troubles as sequelæ filled at least one-half of all the beds in this institution. Operations for hepatic abscesses are probably as frequent here in India as those for appendicitis in America. The frequency of this disease very often leads men, I suspect, to a too hasty diagnosis, as well as carelessness in the examination of their patients. I saw a case operated on here for what was diagnosed as a hepatic abscess, but which turned out to be an encapsulated empyema of the right side of the chest. The doctor saw his mistake, which was a pardonable one, but I did not pardon him for trying to make me believe that his first diagnosis had been a correct one.

IMMUNITY OF NATIVES TO TYPHOID.

Croupous pneumonia and acute rheumatism are extremely rare diseases in Calcutta, if they ever prevail at all. I saw illustrated the fact that the native Indian is practically immune from the infection of typhoid fever, for in this native hospital, I am told, there has never been a single case of the disease, while at the civil hospital, where foreigners only are treated, I saw at least a dozen patients suffering from this complaint.

SURGERY AND ENVIRONMENTS.

How a surgeon—as one in this hospital—in these last days of the nineteenth century, can see no impropriety in making his visits to his wards, dressing filthy wounds, opening abscesses and then going directly to his operating-room and performing operations that require the most scrupulous cleanliness is something that I can not comprehend. The doctor apologized to me for some of his loose habits in his asepsis by saying that the men he taught, when they went out to practice on their own account, would not be able to practice perfectly clean surgery, and therefore he thought it best to teach them only such modes as they would be able to copy in after life.

This puts me in mind of an occurrence, that, though it may have nothing to do with medicine in the Far East, I feel inclined to relate: Some time back in the eighties, a professor from Chicago, myself, and a recent graduate from Harvard, were seated at a table in a café in Vienna. The former was a man of great natural ability, and was endowed with an energy that enabled him to surmount every difficulty he met in life. He had a commanding appearance, a huge frame, and a heart to match. He had been appointed professor of obstetrics in a new medical college, and had come on to Vienna to post up on the branch he was to teach. Our young companion took him to task for being a party to the organization of a medical school that was not needed and the requirements of which, for the graduation of its students at that time, were not very high. The professor defended himself by an argument something like this: He said that in the agricultural sections of the Far West the life of the doctor was so rough, and his labors so hard, that men who were highly educated, like our companion, would not occupy these fields. Therefore a class of men must be taken with less education and taught the more practical branches of the profession, and sent out to occupy these territories that would otherwise be occupied by men who had had no medical instruction whatever.

HYDROCELE IN INDIA.

Everywhere in India this is extremely prevalent, and I have seen an operation for its relief in nearly every hospital I have visited in the Far East. Dr. Murphy, of Calcutta, operates by opening up the sac freely, cutting away about one-half of its serous surface, then stitching this to the skin, swabbing the remaining portion of the sac with a concentrated solution of carbolic acid, approximating the edges of the wound by a few disconnected sutures, and then packing the whole wound with iodoform gauze. He claims to never fail of a perfect cure after this mode of operating. I saw him remove an elephantiasis of the scrotum that weighed twenty-five pounds. When I expressed my astonishment at the size of the growth, he assured me that this was a small affair, and that he had lately, successfully, removed one that weighed 100 pounds. The civil hospital in Calcutta is devoted to the care of the sick of all nationalities except the native Indian. I saw more patients suffering from gonorrhea in this institution than I ever saw before in a hospital of its size in my life. The treatment used for the relief of these patients is extremely antiquated, consisting of urethral injections without any relation as to what part of the urethra is involved, and the administration of balsam of copaiba. Of this last remedy Nothnagel says: "While it disgusts the palate, nauseates the stomach, and irritates the kidneys, it has no influence upon the course of the gonorrhea for which it is given."

I saw here a number of cases of typhoid fever, and amid the different shades of complexion of the patients was impressed by the fact that the disease has a most decided preference for the man with a white skin. They treat the cases in this institution by the administration of chlorin water and the regulation of the bowels by the use of copious injections of warm water.

W. S. Caldwell, M.D.

Medicine as an Art.

Philadelphia, April 9, 1900.

To the Editor: If we take from the medicine of to-day that which is art, we will leave, surely, not more than one-half to the scientists pure and simple—a class that would perhaps be more aptly designated as materialists. When the old-time writers styled their works on physic, "The Art and Science of Medicine," they gave unmistakable evidence of their appreciation of this quality in medicine. With them healing was more than a science to be learned from books. Indeed, it comprehended so much more that was not to be found anywhere in books that great minds in medicine were earnestly sought after as preceptors. The relations between master and pupil were very like those that bound together master and pupil in all the other realms of art. With the passing of the preceptor there has gone out from among us a something that our present-day system seems not yet to have made good. Have we gained or lost? Who shall say?

Every art contains within itself known or unknown elements of one or more sciences. Drawing rests on the laws of perspective; painting on the laws of color harmony and contrast; sculpture on the science of anatomy; music on the laws of sound harmony and contrast; photography on the laws of optics and chemistry; and so on. Even good literature—as Herbert Spencer has shown—must conform in greater or lesser degree to the philosophy (i. e., laws) of style. There seems an indissoluble relation. Medicine has by some been placed among the useful rather than the fine arts; and yet healing has to do with nothing less than living and the life principle itself. Professor Griggs has said that of all the fine arts the art of living is the finest. Viewed from this standpoint healing rises above the level of the purely useful arts. Too, medicine is no mean art in its embrace of the major and minor sciences, most of which pay daily tribute to the thinking men of our guild. Other things being equal, the fullest measure of professional success is most likely to attend him who brings the various 'ologies to wait upon Nature in her allwise healing. At some point in almost every severe illness Nature craves a momentary lift from some one of the sciences, ready then to work out alone her hidden processes; and so unconscious has become our impressment of these aids into the healing art that we take little thought of it. Thus it appears that all art is, at bottom, science—that is to say, has its nucleus of classified facts or knowledge. But he who would attain to the art must first grasp well the science, and then resublime it with his own personality. Then, and then only, does it become art. It would be difficult to say just what the materialist lacks as he essays a canvas, a bust, a bas-relief, a sonata, a sonnet. It would be unfair to say that he is wanting in color sense or perspective in the fundaments of modeling, of the laws of harmony or of the construction of verse. Without these he is nothing. They are the cardinals of his work. What he does seem to lack is the Divine spark that, fusing all these needed things, rises above them and imprisons Nature's secrets, even the most elusive. With some—indeed, with many—this height will be attained only by the fiercest, the most intensive industry. But the man is none the less an artist, neither a genius because of that fact.

Equally difficult is it to criticise the medical man who brings nothing but pure science to his patient's bedside. He certainly does not lack book or laboratory knowledge of physics, chemistry, bacteriology, biology, physiology or pathology; neither is the work of his brethren in foreign fields unknown to him. These are the very tenets of his faith. Of things material he is easily master. But that is only half the proposition. This materialism reveals itself in the tendency to look on patients as so much flesh and blood; to treat the outer casement rather than the individual within; to forget that "we are such stuff as dreams are made of"; to take little thought of hereditary impress, prenatal influence, temperament, domestic and commercial status and a host of other nonmaterial factors. Any or all of these may produce all manner of perversions of nerve function. The insufficiency of such methods has been shown by none more clearly than by Weir Mitchell. Mind and matter sustain a practically complete relation to each other in the healthy human body, and the correlative of this quality in the body is the dual nature of medicine.

So, if the ultrascientist would realize the full measure of his possibilities, he must possess more or less intuition. He must have a genius for affinity—what Goethe called *Weltverwandtschaft* and Griggs "humanism". It is really a species of telepathy. Discreetly used, it is the best and safest short-cut into the patient's confidence, without which we are powerless in most cases. This faculty of insight—of seeing the unseen—is what distinguishes the *artist* physician from the materialist. It removes him infinitely from the monger of patients who plies his profession for revenue only. It is difficult to believe there are many of these inside the guild. Moreover, if such there be, they are "punished, not *for* their sins, but *by* them." Innate, instinctive appreciation of the myriad outworkings of human nature makes of the clinical worker at the bedside, the artist physician. Of the well-rounded man of science it makes a mental giant, a savant—the very flower of our cult.

It should be the aim of the body medical of to-day to cultivate this spirit of affinity in every way, and to multiply its present great usefulness by evolving its members into the artist physician with wide-angled mental vision. This is the man who, while ministering to the physical sufferings of his patient, will never lose sight of the psychic element—which is no small matter in this day of exceeding heteropathy (mental healers, "osteo" quacks and fortune-tellers included!).

We to-day hear much of the *science* of medicine. It is not amiss to reiterate that, classify our knowledge as we will, there remains an outlying, an unaccountable factor in successful healing, the presence or absence of which marks the true physician from the medicine giver pure and simple. This is the *art* factor. The true physician is no less a genius in striving for perfection in healing than is the painter, the sculptor, the orator, the musician, the literateur, in trying to attain their highest ideals. The passion for perfection is the hall-mark of the true artist in medicine as in all things pertaining to the higher life. All art is one, and not least among its votaries are the priests of Hygeia. Wendell Reber, M.D.

The Journal's Advertising Policy.

Toledo, Ohio, April 17, 1900.

To the Editor: When The Journal's recently announced policy concerning advertising is in full force, the enjoyment I have heretofore gotten out of its perusal will be heightened, because there will be lopped off from it the only disquieting feature which has ever manifested itself. I have always had an antipathy for unethical medical advertisements, possibly from pharisaical inclinations, but then, the antipathy exists nevertheless.

My thoughts on the subject of medical advertising have been the same for so long that grooves have been worn so deeply in my gray matter that now I can not change my views. I am in fact a crank on that subject. In consequence of this lifelong habit, whenever I come across a quack advertisement in a religious newspaper, or in any paper which claims to be respectable, I make a note of it, and when I have spare time I write to the one who is responsible for its appearance. I have written to judges, reverends, D.D.S.'s, mayors, in fact, to all sorts of people, who have given testimonials, and to editors and publishers of all kinds of periodicals. I have had more enjoyment and entertainment than would pay me for the trouble of writing the letters, out of nearly all of my correspondence. The exceptions have been when some publisher told me that he was advertising the same secret preparations to his subscribers that the best medical journals were advertising to physicians, and that their readers know as much regarding the composition of the medicines as do the physicians. Not all of them would see that point, but whenever I have received a letter like that, I have written my next rainy day letter to some one else; because, while I like argument, and have never been known to stop arguing as long as the other man would talk, still, when I can get out of so doing, I never go up against a stone wall. The carrying out of The Journal's policy will remove what has been to me a thorn in the flesh.

I tell the publishers of religious newspapers that if they would get out and hustle for business the same as other men do, they could get advertisements and not be obliged to sell their columns to quacks. I know that many physicians differ with me, but I can see no harm in publishing in The Journal *advertisements of every good thing which people buy.*

It is our business to oppose everything of a medical character which is not in accord with the best teaching of scientific medicine. That we may do so successfully and consistently, The Journal must not only be as clean as the best, but absolutely above reproach. It ought not to be a question with us whether The Journal is a financial success, so much as whether it represents only the principles of scientific medicine. We surely should never think of blaming the Trustees or the Editor if The Journal met with a financial loss on account of the rejection of bad and questionable advertisements. Scores of times publishers of religious and other papers have sought to justify the appearance of quack advertisements in their columns, by telling the money value of those they had rejected. The Journal should be, and is, governed by a higher standard. Success to it! James L. Tracy, M.D.

Deaths and Obituaries.

Geo. E. Frothingham, M.D., Detroit, Mich., died April 24, aged 64 years. He was born in Boston, in 1836. He attended St. Phillip's Academy, in Andover, Mass., then went to Ann Arbor, Mich., where he was graduated from the medical department of the University of Michigan, in 1864, and in 1867 was made demonstrator of anatomy there. In 1870 the chair of ophthalmology was created, and he was appointed to fill it. In 1889 he resigned and went to Detroit.

William F. Robinson, M.D., editor of the *Hatborough Free Spirit*, died in Philadelphia, April 15, aged 63 years. He was born in Boston, and was a graduate of the medical department of the University of Pennsylvania, and practiced for ten years in Hatborough, where, in 1873, he established the journal which he edited until his death. He was for six years a state quarantine physician, and for eight years connected with the health bureau. During the Civil War he served four years as surgeon of the 104th Regiment of Pennsylvania Volunteer Infantry.

J. N. O'Brien, M.D., Milwaukee, Wis., died April 22, aged 62 years. He was a native of Pennsylvania, and received his early education there, in the state university; he also studied at the University of Notre Dame, after which he was graduated from Rush Medical College, Chicago. He was a member of the American Medical Association and of the Wisconsin State Medical Association.

William G. Cooper, M.D., died at the Toledo State Hospital, Toledo, Ohio, April 19, aged 34 years. He was graduated from Findlay College in 1891, and from the Baltimore (Md.) Medical College in 1895. He had been assistant physician in the hospital for five years, and resigned April 1, with the intention of beginning the practice of medicine in Findlay.

Harvey C. Johns, M.D., Jefferson Medical College, Philadelphia, died at his home in Decatur, Ill., April 22, aged 81 years. He was surgeon of the 129th Illinois Volunteer Infantry.

Erasmus Darwin Hillis, M.D., died at his home in Montour Falls, N. Y., April 19, aged 61 years. He was a captain of the 189th Regiment, New York volunteers.

J. C. Morgan, M.D., died at Sioux Falls, S. D., April 19, of pneumonia. He was a veteran of the Civil War and had been prominent in state medical circles.

Edwin O. Baker, M.D., Spokane, Wash., died April 18, aged 70 years. He formerly practiced medicine at Lake City, Minn., and Menomonee, Wis.

Ripley Clark, M.D., Windsor, Vt., died April 23, aged 83 years. He had been medical director at the state prison for twenty years.

Conrad Spens, M.D., born in Stockholm, Sweden, in 1844, died in Joliet, Ill., April 27.

S. G. Tutt, M.D., died April 25, in Kirkwood, Mo., of bronchial pneumonia, aged 81 years.

S. S. Pittman, M.D., Chipley, Ga., died April 21. He was 41 years old.

A. M. Beach, M.D., Niles, Ohio, died April 20, of pneumonia, aged 52 years.

P. C. Wooten, M.D., died at Lafayette, Ky., April 23, of la grippe. He was 75 years old.

W. P. Smith, M.D., Salina, Kan., died April 23, after a lingering illness.

A. M. Dent, M.D., Coshocton, Ohio, died April 5. He was graduated from the Columbus Medical College in 1882.

W. G. Cooper M.D., formerly assistant superintendent, Toledo State Hospital, died at his home in Van Buren, Ohio, April 20.

Frank F. Myers, M.D., University of Pennsylvania, 1890, died in Allegheny, Pa., March 29, aged 33.

DEATHS ABROAD.

O. Leichtenstern, M.D., Cologne, Germany, an indefatigable scientific investigator and writer on internal medicine died recently.

Joseph Gruber, M.D., died recently at his home in Vienna. He was a recognized authority on laryngology and otology.

Association News.

Annual Announcement.

The fifty-first annual session (53d year) of the American Medical Association will be held in Atlantic City, N. J., on Tuesday, Wednesday, Thursday and Friday, June 5, 6, 7 and 8, commencing on Tuesday at 11 a. m.

REGARDING REPRESENTATION.

The delegates shall receive their appointment from permanently organized state medical societies, and such county and district medical societies *as are recognized by their respective state societies*, and from the medical departments of the Army and Navy and the Marine-Hospital Service of the United States.

Each state, county and district medical society entitled to representation shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number; *Provided*, however, that the number of delegates from any particular state, territory, county, city or town shall not exceed the ratio of one in ten of the resident physicians who are entitled to membership.

PERMANENT MEMBERS.

The permanent members shall consist of all those who have served in the capacity of delegates, and of such other members as may receive the appointment by unanimous vote, and shall continue such so long as they remain in good standing in the body from which they were sent as delegates, and comply with the requirements of the By-Laws of the Association, so long as they shall continue to conform to its regulations, but without the right of voting; and, when not in attendance, they shall be authorized to grant letters of introduction to reputable practitioners of medicine residing in their vicinity, who may wish to participate in the business of the meeting, as provided for members by invitation.

MEMBERS BY APPLICATION.

Members by application shall consist of such members of the state, county and district medical societies entitled to representation in this Association as shall make application in writing to the Treasurer, and accompanying said application with a certificate of good standing, signed by the president and secretary of the society of which they are members, and the amount of the annual subscription fee, $5. They shall have their names upon the roll, and have all the rights and privileges accorded to permanent members, and shall retain their membership upon the same terms.

A distinctive badge will be provided for delegates.

Secretaries of societies are requested to forward names of delegates as soon as possible, as a list of these will be prepared before the meeting.

George H. Simmons, M.D., Secretary.
61 Market Street, Chicago.

Railroad Rates for Atlantic City Meeting.—As announced in these columns last week, the Trunk Lines Association has granted one and one-third fare rate on the certificate plan for the Atlantic City meeting. Tickets will be on sale in the territory of this Association from May 30 to June 7, and good to return to June 23. Action has also been taken by the Central Passenger Association, and the same rate announced from all points in the territory of the latter Association, tickets also to be sold on the certificate plan, the dates of sale and the return limit being the same as above. The certificates will be signed at Atlantic City by Dr. W. Blair Stewart, N. E. Cor. Pacific and North Carolina Avenues, and a special agent will be present on June 6, 7 and 8. Up to date no advices have been received from other passenger associations. The territory covered by the two first named includes practically everything north of the Ohio River and east of the Mississippi from Cairo to St. Louis, thence east of a line drawn from St. Louis to Chicago, through Jacksonville, Decatur, Gibson, etc.

Section Headquarters at Atlantic City.—*Following* is a correct list of the hotels selected as headquarters for the different Sections. These hotels, with two exceptions, are all located on the board walk, directly fronting the ocean, and are considered the best hotels. Every effort will be made by the proprietors and their managers to furnish proper and pleasant accommodations to all who elect to stop with them. Each Section has been located separately, with a view of avoiding the crowding and general annoyance that has characterized a number of the previous meetings. The hotels are all well located and are comparatively near the place of registration and the general meetings in the assembly hall, as well as the meeting places of the different Sections, hence no member need hesitate to arrange his accommodations at the one selected as the headquarters for his Section. The names and addresses of the presidents and secretaries of the different Sections have been placed in the hands of the managers of the respective hotels, and the latter have been requested to correspond with the former, asking for a list of the Sections' membership, that they may address each member and ascertain early about how many will be in attendance, and acquaint themselves as near as possible with the desired accommodation expected by each individual. Every member of the American Medical Association and all other physicians who expect to be in attendance should arrange for their quarters as soon as possible, as this will assure to them satisfactory accommodation and avoid disappointment at the last moment.

American Medical Association, Hotel Dennis.
American Academy of Medicine, Hotel Shelburne.

SECTION HEADQUARTERS.

Section on Practice of Medicine, Hotel Traymore.
Section on Surgery and Anatomy, Hotel Windsor.
Section on Obstetrics and Diseases of Women, Hotel Garden.
Section on Materia Medica and Therapeutics, Hotel Luray.
Section on Neurology and Medical Jurisprudence, Hotel Brighton.
Section on Ophthalmology, Hotel Haddon Hall.
Section on Laryngology and Otology, Hotel Seaside.
Section on Physiology and Dietetics, Hotel Ilesworth.
Section on Diseases of Children, Hotel St. Charles.
Section on Cutaneous Diseases, Hotel Rudolph.
Section on Stomatology, Hotel Senate.
Section on State Medicine, Hotel Pennhurst.

The Official Program.—In order to avoid misunderstandings and to protect the interests of advertisers, attention is called to the fact that there is but one official program. This program is copyrighted by the Board of Trustees and contains no advertising matter.

Miscellany.

Vomiting Coffee-Ground Masses After Gynecologic and Obstetric Operations.—Beuttner has described (*Corr. f. Schweizer Aerzte*, 1899, 18) seven patients in whom a coffee-ground substance was vomited during or soon after the operation, with subsequent severe anemia. There was no stomach nor heart disease in any case, and the technique could not be incriminated. One came to the autopsy and numerous hemorrhagic erosions were found in the stomach. He suggests that the coffee-ground substance may have been produced by the venous congestion caused by the narcosis, and the action of an exceptional amount of hydrochloric acid in the stomach.

Deprival of Salt in Treatment of Epilepsy.—The Journal has called attention to Richet's recent announcement that the bromids can be rendered doubly effective by depriving the patients of salt in their food. Roux confirms this statement and asserts that the simplest manner of depriving the food of salt is to place subjects on a milk diet. He found very small amounts of bromids effective in arresting and preventing seizures when combined with a milk diet, while if salt were added to the milk the seizures appeared in one of his four patients.

Sectional Limits of Cutaneous Anesthesia on the Head.—F. V. Soelder found cutaneous anesthesia limited to certain regions on the head, identical and constant in six cases of syringomyelia. They were not found in any of the cases of hysteria he examined, and consequently can assist in the differentiation, as he announces in *Jahrb. f. Psych.*, xviii, 3. The sectional limits on the trunk and extremities are the same with lesions of either spinal cord or roots, but this coincidence does not occur in the localizations on the head.

Vital Statistics of Havana, Cuba, March, 1900.—The report of the chief sanitary officer, Major W. C. Gorgas, surgeon, U. S. A., shows 605 deaths in an estimated population of 220,000. In the list of deaths are 96 from tuberculosis; 48 from pneumonia, 45 from bronchitis, and 23 from la grippe; 40 from enteritis and 4 from typhoid fever; 23 from meningitis; 24 from malaria, 9 from pernicious malarial fever and 12 from cirrhosis of the liver; 45 from arterial sclerosis; 16 from tetanus; 2 from leprosy; 2 from beri-beri and 4 from yellow fever. Eleven new cases of the last mentioned disease occurred during the month. The births number 553, of which 225 were illegitimate; marriages 142. The average number of gallons of electrozone applied daily for the disinfection of catch basins, sewers, streets, urinals and houses was 9715. Nothing is said as to the efficiency of the electrozone.

Boards of Health in Porto Rico and Cuba.—The past week has brought to the U. S. War Department information of an order for the establishment of a board of health in every municipality of the island of Porto Rico and of a board for the city of Santiago, Cuba. General Orders No. 66, Headquarters, Department of Porto Rico, March 29, 1900, publishes the requirements called for by the Porto Rico Department Commander, General George W. Davis, U. S. Volunteers, on the recommendation of the Superior Board of Health of the island, of which Major J. Van R. Hoff, chief surgeon of the department is president. The order provides for a board of health in each municipality, to be constituted as follows: The alcalde, a municipal physician, the president of the school board and the president of the board of charities, all of whom must be residents of the municipality in which they are to serve. Where there is more than one municipal physician, the other members will elect one of these to membership on the health board. The alcalde will be president, the municipal physician health officer and the board will elect a secretary from its other members. One regular meeting will be held each month and special ones on the call of the president or any two members. At special meetings only the business designated in the call will be transacted. Three members will constitute a quorum. An estimate will be placed on the municipal budget each year to cover the expenses of the board. The municipal judge, on or before the fifth day of each month, will furnish the board of health with a report of the vital statistics of the municipality for the month immediately preceding. On the same day General Orders No. 67 gave further information on matters relating to public health. These require each municipality in Porto Rico to provide in its annual budget for the payment of municipal physicians and practicantes, for medical attendance on the poor and for medicines for the same class, and money appropriated for medical attendance and for medicines is to be used for no other purpose. Each municipality shall have at least one municipal physician. If the population exceeds 10,000, there shall be not less than two municipal physicans, and for every 6000 or major fraction thereof above this number there shall be an additional municipal physician. When there is more than one municipal physician the territory will be divided among them as equally as possible, taking into consideration both population and accessibility. Remote and inaccessible barrios must be provided with resident physicians or practicantes. Whenever a barrio is not so provided it will petition the municipal council, and if without result, then the Superior Board of Health, stating in the petition the population of the barrio, the time required for the nearest physician to reach the central and remote portions of the barrio and the number of poor who can not pay for medical aid. The board will, if it deems it necessary, appoint a physician or practicante who will be paid from the municipal treasury. These physicians or practicantes must attend all calls made by the sick poor in their respective districts. All physicians, practicantes, dentists, pharmacists or nurses holding public positions must be licentiates of the Superior Board of Health.

The commanding officer of the Department of Santiago and Porto Principe, Cuba, on March 30, provided for a board of health for the city and district of Santiago, to consist of the chief surgeon, president ex-officio; the director of the civil hospital, vice-president ex-officio; the sanitary inspector; the surgeon of the Marine-Hospital Service and five resident physicians. The Board will elect one of its members as secretary, who will receive $75 a month, the other members serving without pay. The duties of the Board are to advise in all sanitary matters in the city and district, to recommend all measures deemed necessary for the public health and to collect and publish complete vital statistics. All cases of contagious or infectious diseases or diseases suspected to be such are to be reported to the president of the Board, who will immediately notify at least three of the members to examine and decide the nature of each case so reported. The opinion of the examining members will be expressed in writing over their signatures and handed to the president of the Board. All measures of isolation and disinfection deemed necessary by the Board will be carried out through the Sanitary Department.

Peculiar Sites for Epitheliomas.—A curious bit of medical geography is reported in the *Indian Medical Gazette* for March. Dr. Neve, of the Kashmir Mission Hospital, finds that in Kashmir, epithelioma, instead of affecting the neighborhood of mucous surfaces, has its usual seat on the skin of the abdomen and thighs. It is so common that the name Kangri-burn has been given to the lesion, which is a squamous-celled epithelioma of the skin. The cause of it is evident: instead of dressing for warmth every Kashmir man, woman and child carries, during the severe winter and indeed for a great part of the year, a sort of portable stove or charcoal brazier under the single garment next the skin. Slight burns from this source frequently occur and there must be a more or less constant irritation, actually producing a peculiar mottled appearance in many. The frequency of the disease may be estimated when he reports operating on 20 patients in two months, not counting several inoperable ones. This condition is of interest as a medical curiosity, especially when its peculiar cause is taken into account.

Diagnosis and Treatment of Hepatic Abscess.—It must be admitted that at the present day the diagnosis of hepatic abscess remains in a quite unsettled condition. According to Loomis, with a correct history of the case the diagnosis is easy, while DaCosta, on the other hand, regards the symptoms as being obscure, and in many cases the diagnosis a difficult matter. The diseases with which hepatic abscess has most frequently been confused are: malarial fever, typhoid fever, cancer, impacted gall-stone, hydatid cyst and actinomycosis. The etiologic factors which have heretofore been regarded as most conducive in the production of abscess of the liver are: history of amebic dysentery, traumatism, embolism from pyemic foci, malarial fever, gall-stone, rectal abscess, bone disease, and excessive use of alcohol in warm countries. One of the most frequent causes seems to have been overlooked, namely appendicitis. The disease is rare in children. The symptoms vary, according to different writers on the subject. Osler states that in the tropics the disease may remain latent for long periods of time. The most common symptoms and physical signs set aside as being characteristic of this condition are: intermittent fever, night sweats, irregular chills, slight icteroid—muddy—condition of the skin, diarrhea, vomiting, throbbing in the right lobe of the liver referred to the shoulder, pain, and a dragging sensation over the right hypochondriac region. Vierordt states that when the abscess is parietal and involves the peritoneum, there is great tenderness, but when deeply seated there is none. As to the physical signs there appears to be a diversity of opinion. The following have been recognized: enlargement of the liver, mostly in an upward direction, especially noted in the dorsal region of the chest, pain on palpation over the hypochondrium, bulging of the right hypochondrium, with fluctuation or edema, pulsation of the liver, a peritoneal friction, and lastly presence of pus as told by the aspirating needle. All writers agree that the enlargement of liver extends upward and posteriorly. Jackson, after a study of 17 cases of hepatic abscess, regarded the following as the most frequent signs and symptoms: presence of a tumor, fever, chills, leucocytosis, and slow pulse. The latter sign he regards as being quite characteristic. The less important symptoms he considers as pain, tenderness, vomiting, jaundice, and enlarged spleen. Johnston and Fontain enumerate the principal signs and symptoms as follows: pain, indigestion, nausea, intestinal disturbances, irregular fever, jaundice and enlargement of the liver. Malbot, whose experience has been great (*Archives Gén. de Med.*, August, September and October, 1899), regards pain as the most important symptom. Cyr endeavors to bring order out of chaos by describing the symptoms and signs with reference to the position of the abscess, and this seems the most logical. He believes that when the abscess is on the convex surface of the liver, there is pain radiating toward the shoulder, but no jaundice. When it is large and deeply situated, jaundice is present. If the abscess occupies the under surface of the liver, thoracic symptoms will be absent, but gastric ones, especially uncontrollable vomiting, will occur and the pain will radiate toward the right groin. Loomis had previously recognized this phase of the question and stated that when the abscess occupied the posterior portion of the right lobe of the liver the organ would be pushed downward and could be felt below the free margin of the ribs. Jaundice is said to occur when there are multiple abscesses present. Osler describes the liver dulness as being normal in the sternal and parasternal line, but in the mid-axillary region it may reach as high as the fifth rib, and posteriorly as high as the angle of the scapula. Malbot (*The Lancet*, February 24) has seen 222 cases of hepatic suppuration, and regards pain as the most important symptom. This pain was said to be sharp in character, as if something was being torn, and was always brought on by muscular effort, or by succussion, and radiated toward the right shoulder, pit of the stomach, lower part of the abdomen or right iliac fossa, according to the location of the abscess. He has never met with the peritoneal friction, nor has he seen a case complicated by jaundice. The pus in abscess of the liver is usually chocolate in color. The following micro-organisms have been found: ameba coli—most common—colon bacillus, staphylococcus and streptococcus. The diplococcus of Fränkel was found in a case reported by Hermes. Flexner found ameba coli in the sputum as well as crystals supposed to be bilirubin. Loison found a mixture of the colon bacillus and a diplococcus in one case. Reviewing the recent cases of hepatic abscess reported, together with the etiologic factors, the following are noted: Slaughter (1896) collected the history of 27 cases of hepatic abscess occurring in children, and Gassicourt, in 1899, reported an additional one. Rouis (1896) of Algiers collected 250 cases, only 1 in a child. In these cases 9 were supposed to have resulted from injury. Hermes (1896) reported 4 cases of hepatic abscess, one of which resulted from appendicitis, a condition said to be prone to produce suppuration in the right lobe of the liver; one resulted from gall-stone and another from perityphlitis. Of two reported by Flexner (1897), no lesion of the bowel could be found in one instance, while in the other the lesion of the bowel probably followed the disease of the liver. Rendu (1898) reported 2 cases following dysentery, and in the same year Wilson reported 3 due to the same cause. In 1899 Dieulafoy reported the case of a man, 34 years of age, who suffered from slight jaundice, and in whom hepatic abscess was found. Deaver (1899) reported a case which occurred in a woman 24 years of age, which had produced a large tumor but without marked symptoms; there was no history of dysentery nor malaria. In 1899 Jackson analyzed 17 cases of hepatic abscess: in 10 instances the disease probably originated from appendicitis, 2 were from amebic dysentery, 2 accidental, and 3 of unknown origin. Marshall, in 1899, reported a case due to amebic dysentery. He points out the danger of recurrence of those cases should the person reside in a tropical country. In 5 cases reported by Grant (1899), 1 probably arose from disease of the small intestines or colon, 1 from typhoid fever, in 1 the infection could not be traced, and 2 were from appendicitis. In the same year Eisendrath reported a case probably having its seat in the large intestine. In this instance the disease was multiple, affected the left lobe and produced no clinical symptoms.

In the treatment, the following named believe in incision and drainage: Rendu, Roger, Loison, Dieulafoy, Jackson, Marshall, Grant, Deaver and Cadet de Gassicourt. Hadra advises costotomy. Grant advises aspiration followed by incision, flushing and drainage. He believes that more than 60 per cent. of abscesses of this region are accessible through the diaphragm, by excising a part of the eighth and ninth ribs, and if possible stitching the liver wound to the diaphragmatic wound to prevent reinfection. He believes that the prognosis will be favorable in 75 per cent. of such cases. Hadra advises that the abscess cavity be not flushed, owing to the danger of reinfection. Fonan states that in cases of migrating abscess of the liver the pus shows a tendency to follow the anterior abdominal wall, and that the incision should be made so that it will hug the lower limit of the thorax, to promote drainage. In one case reported by Jackson, three attempts were made to aspirate, but proved ineffectual.

Queries and Minor Notes.

PRACTICE IN NEW MEXICO.

Owosso, Ill., April 28, 1900.

To the Editor.—Please advise me as to the laws governing medical practice in New Mexico. J. O. P.

Answer:—If the terms and regulations for practice in New Mexico are still those cited in the Illinois State Board of Health Report for 1898, they are simply the presentation of a satisfactory diploma, or examination if a non-graduate. The diploma must be from a school that requires a sufficient preliminary examination and has a four years' course. One from another school would not be sufficient and examination would be required.

PRACTICE IN TEXAS.

Wheat, Tenn., April 23, 1900.

To the Editor.—Will you inform me regarding the medical laws of Texas? I am a graduate of Vanderbilt University, and wish to know whether it will be necessary for me to take a state examination. R. L. G.

Answer:—The medical laws of Texas, we understand, are rather lax. We are informed by the *Texas Medical Journal* (November, 1899) that a diploma from an accredited medical college chartered in the state where located will make the holder a legally qualified physician, provided the diploma is registered in the court records of the district in which the holder is practicing.

CONCERNING SODIUM CHLORID.

Kansas City, Mo., Aprl 25, 1900.

To the Editor:—It has lately come to my notice, through a patient, that sodium chlorid is an "antifat" agent, if taken in teaspoonful doses before meals. I would like to know whether sodium chlorid is recognized as possessing this power of reducing tissue. How does it do it? Is it hurtful to the human economy? R. S. B.

Answer:—We are not informed as to the specific effect of sodium chlorid as an antifat agent, though its use has been recommended to increase metabolism, and carry off waste products. Certain saline waters, like Kissingen and Hamburg, are recommended as good treatment for obesity. The action of the sodium chlorid should be favoring tissue change and elimination.

ADDRESSES OF SECRETARIES, ETC.

Easton, Pa., April 28, 1900.

To the Editor:—Will you kindly give me the names and addresses of the secretaries of the state boards of medical examination in the following: Kentucky, Rhode Island, Ohio, Louisiana, Maryland, Massachusetts, District of Columbia, Idaho, Minnesota, South Dakota, Wyoming? W. H. D.

Answer:—The names and addresses desired are, or were: Kentucky, J. N. McCormac, Bowling Green, secretary of the State Board of Health; Rhode Island, J. T. Swartz, Providence, secretary of the State Board of Health; Louisiana, T S. Kennedy, New Orleans, president of the State Board of Medical Examiners; Maryland, J. McP. Scott, Hagerstown; Massachusetts, Edward Harvey, Boston, secretary of the State Board of Registration; District of Columbia, Geo. C. Ober, Washington; Idaho, C. L. Sweets, Boise; Minnesota, J. B. Brimhall, St. Paul; South Dakota, F. H. Files, Sioux Falls; Wyoming (data not at hand). These addresses are taken from the Report of the Illinois State Board of Health and there may have been some changes. Ohio has just passed a new law and we are not informed as to the appointments under it.

PRACTICE IN RHODE ISLAND.

New York City, April 23, 1900.

To the Editor:—Will you inform me regarding the medical laws of Rhode Island? F. A. B.

Answer:—Rhode Island requires a diploma from a reputable medical college requiring a four years' course, endorsed by the State Board of Health, or an examination.

BOOKS AND PAMPHLETS RECEIVED.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interests of our readers.

BOOKS.

Injuries to the Eye in Their Medico-Legal Aspect. By S. Baudry, M. D. Professor in the Faculty of Medicine, University of Lille, France, etc. *Translated from the Original by Alfred* James Ostheimer, Jr., M. D., Philadelphia. Revised and Edited by Charles A. Oliver, A.M. M.D. Attending Surgeon to the Wills Eye Hospital; Ophthalmic Surgeon to the Philadelphia Hospital; Member of the American and French Ophthalmological Societies, etc. With an Adaptation of the Medico-Legal Chapter to the Courts of the United States of America, by Charles Sinkler, Esq., Member of the Philadelphia Bar. 5⅜ by 7⅞ inches. Pp. 161. Extra Cloth, $1 net. Philadelphia: The F. A. Davis Co.

Operative Surgery of Malignant Disease. By Henry T. Butlin, F.R.C.S., D.C.L, Surgeon to St. Bartholomew's Hospital. With the Co-operation of James Berry (The Typhoid), W. Bruce Clarke (The Kidney), Alban Doran (The Ovary and Uterus), Percy Furnivall (The Stomach, Intestine and Rectum), Walter Jessop (The Eye), H. J. Waring (The Liver and Gall-Bladder). Second Edition. Cloth. Pp. 426. Price, $4.50. Philadelphia: P. Blakiston's Son & Co. 1900.

Ulcer of the Stomach and Duodenum and Its Consequences. By Samuel Fenwick, M.D., F.R.C.P., Consulting Physician to the London Hospital and W. Soltau Fenwick, M.D., M.R.C.P., Senior Physician to the London Temperance Hospital. Cloth. Pp. 392. Price, $3.50. Philadelphia: P. Blakiston's Son & Co. 1900.

Student's Handbook of Surgery of Alimentary Canal. An Abridged and Amended Edition of the Author's Treatise on the Same Subject. By A. Ernest Mayland, M.B., B.S., Surgeon to the Victoria Infirmary, Glasgow. Cloth. Pp. 510. Price $3. Philadelphia: P. Blakiston's Son & Co. 1900.

Anatomy of the Brain. A Text-Book for Medical Students. By Richard H. Whitehead, M.D. Professor of Anatomy in the University of North Carolina. Illustrated with Forty-one Engravings. 6¼ by 9½ Inches. Pp. 96. Extra Vellum Cloth, $1 net. Philadelphia: The F. A. Davis Co.

Paralytic Deformities of Lower Extremities. The principles of their Surgical Treatment. By E. Noble Smith, F.R.C.S., L.R.C.P., etc., Senior Surgeon to the City Orthopedic Hospital, and Surgeon to All Saint's Children's Hospital, London. With 51 Illustrations. Cloth. Pp. 99. Price, $5. London: Smith, Elder & Co. *1900.*

Public Health Papers and Reports. Volume 25 Presented at the Twenty-Seventh Annual Meeting of the American Public Health Association, Minneapolis, Minn., October 31 and November 1, 2 and 3. 1899. Columbus, Ohio. Berling Printing Co. 1900.

Transactions of Michigan State Medical Society. For the Year 1899. Vol. 23. Cloth. Pp. 481. Grand Rapids, Mich.: Published by the Society. 1899.

Transactions of Medical Association of State of Missouri. Forty-second Annual Session, May 16, 17, 18, 1899. Cloth. Pp. 387. Kansas City, Mo.: Burd and Fletcher Printing Co. 1899.

Transactions of Iowa State Medical Society. Vol. 17. Forty-eighth Annual Session. 1899. Cloth. Pp. 420. Waterloo, Iowa: H. G. Middleditch. 1899.

Transactions of New Hampshire Medical Society. One Hundred and Eighth Anniversary, May 25 and 26, 1899. Cloth. Pp. 308. Concord, N. H.: Ira C. Evans. 1899.

Transactions of Colorado State Medical Society. Twenty-eighth and Twenty-ninth Annual Conventions. By-laws and List of Members. Cloth. Pp. 515. Denver: Published for the Society. 1899.

Transactions of Sixty-sixth Annual Session of the Medical Society of State of Tennessee. 1899. Cloth. Pp. 325. Nashville: John Rundle & Sons. 1899.

Transactions of Medical Association of Georgia. Fiftieth Annual Session. 1899. Cloth. Pp. 575. Atlanta, Ga.: Published by the Association. 1899.

Proceedings of Kansas Medical Society. Thirty-third Annual Meeting. Topeka, Kans., May 3, 4, and 5, 1899. Cloth. Pp. 192. Topeka: A. D. Bauer Printing Co. 1899.

REPRINTS, ETC.

Annual Report of Frank J. Ives, Surgeon U. S. Volunteers. Chief Surgeon, Department of Matanzas and Santa Clara. Paper. Pp. 30. 1899.

Contribution to Histogenesis of Melanosarcoma of the Skin. By Alfred Schalek, Chicago. Reprinted from Jour. of Cut. and Genito-Urinary Dis.

Gynecologic Complications of Neurasthenia from a Neurologic Standpoint. By John Punton, Kansas City, Mo. Reprinted from Western Medical Review.

A Medico-Religious Charity—the Guild of Mercy. By W. Thornton Parker. Westboro, Mass. Reprinted from Atlanta Jour.-Record of Medicine.

Report of Commission on Chicago River. Submitted December 11, 1899.

Some Points in Diagnosis of Traumatic Injuries of Central Nervous System. By J. T. Eskridge, M.D., Denver, Colo. Reprinted from The Journal.

Stricture of Esophagus and Electrolysis by New Esophageal Electrode By Charles D. Aaron, Detroit, Mich. Reprinted from Phys. and Surg.

Tenth Annual Report of St. Mary's Hospital. Rochester, Minn. Conducted by Sisters of St Francis. Rochester, Minn.: Daily Bulletin Print 1900.

Transactions of Philadelphia County Medical Society for January, February, March, April, May, September, October, November, and December, 1899. Philadelphia.

Twenty-second Annual Report of the Presbyterian Eye, Ear and Throat Charity Hospital of Baltimore. Baltimore: J. S. Bridges & Co. 1900.

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant General's Office, Washington, D. C., April 21 to 27, 1900, inclusive:

Calvin DeWitt, lieutenant colonel, deputy surgeon-general, U. S. Army, leave of absence on account of sickness.

William W. Quinton, captain and asst.-surgeon, U. S. Army, relieved from further duty in the division of Cuba to proceed to New York City, N. Y., and report by telegraph to the adjutant-general of the Army for further orders.

Najeeb M. Saleeby, acting asst.-surgeon, leave of absence granted.

Charles F. Sanborn, acting asst.-surgeon, previous orders, directing him to proceed from Willard, N. Y., to the Department of California, revoked.

Alfred A. Woodhull, lieutenant-colonel and deputy surgeon-general, U. S. Army, to report to the surgeon-general of the Army for duty in his office.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ending April 21, 1900.

Medical Inspector G. E. H. Harmon, detached from the *Baltimore* and ordered to the *Oregon*.

Surgeon F. B. Stephenson, detached from the *Oregon* and ordered to the *Baltimore*.

(Changes by Cable from Asiatic Station.)

Passed Assistant Surgeon L. Morris to the *Baltimore*.

Passed Assistant Surgeon S. G. Evans, orders of April 13 modified; ordered to proceed home, when detached from the *Marblehead*, and to be ready for sea duty.

MARINE-HOSPITAL CHANGES.

Official list of changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ending April 19, 1900

Surgeon A. H. Glennan, to rejoin station at New Orleans, La., April 18, 1900.

Surgeon W. P. McIntosh, detailed to represent the Service at the meeting of the Medical Association of the State of Alabama, to be held at Montgomery, Ala., April 17-21. To proceed to Tarpoon Springs, Fla., for special temporary duty.

P. A. Surgeon G. M. Guiteras, bureau order of March 5, 1900, relieving P. A. Surgeon Guiteras from duty at Matanzas, Cuba, revoked.

Asst.-Surgeon V. G. Heiser, detailed as delegate to the Congress "for the struggle against Tuberculosis" to be held at Naples, Italy, April 23-28, 1900.

Asst.-Surgeon D. E. Trotter, Bureau order of March 5, 1900, detailing Asst.-Surgeon Trotter for duty as quarantine officer at Matanzas, Cuba, revoked and directed to proceed to Cienfuegos, Cuba, as quarantine officer.

Acting Asst.-Surgeon J. C. Ballard, granted leave of absence for 51 days from May 1, 1900.

Acting Asst.-Surgeon W. Havelburg, granted leave of absence for thirty days from May 10, 1900.

Hospital Steward G. C. Allen, granted leave of absence for 27 days from April 19, 1900.

Hospital Steward G. W. Iltis, to proceed to Cleveland, Ohio, and report to medical officer in command for duty and assignment to quarters.

BOARD CONVENED.

Board convened to meet at Washington, D. C., April 19, 1900, for the physical examination of candidates for appointment as Second Assistant Engineer in the U. S. Revenue Cutter Service.

Detailed for the Board.—Surgeon, P. M. Carrington, Chairman; Asst.-Surgeon L. D. Fricks and Asst.-Surgeon W. C. Billings, Recorder.

APPOINTMENT.

George W. Iltis, of Minnesota, appointed Junior Hospital Steward.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon General, U. S. Marine-Hospital Service, during the week ended April 28, 1900.

SMALLPOX—UNITED STATES.

Alabama: Mobile, April 14-21, 12 cases.

District of Columbia: Washington, April 14-21, 2 cases.

Florida: Jacksonville, April 14-21, 1 case.

Illinois: Aurora, April 1-7, 1 case; Chicago. April 14-21, 4 cases.

Indiana: Evansville, April 14-21, 5 cases; Indianapolis, April 1-21, 8 cases.

Kansas: Wichita, April 14-21, 11 cases; Thirty-three towns and counties. March 1-31, 456 cases, 5 deaths.

Kentucky: Covington, April 14-21, 7 cases; Lexington, April 14-21, 2 cases.

Louisiana: New Orleans, April 14-21, 75 cases, 19 deaths.

Maine: Portland, April 14-21, 1 death.

Michigan: Detroit, April 14-21, 1 case.

Nebraska: Omaha, April 14-21, 2 cases.

Ohio: Cleveland, April 14-21, 15 cases.

Pennsylvania: Philadelphia, April 21, 1 case; Pittsburg, April 14-21, 2 cases.

South Carolina: Greenville, April 13-20, 3 cases.

Utah: Salt Lake City, April 14-21, 3 cases.

Washington: Spokane, April 14-21, 3 cases.

Wisconsin: April 14, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, March 24-31, 5 cases.

Belgium: Ghent, April 1-7, 2 deaths.

Egypt: Cairo, March 18 to April 1, 16 deaths.

England: Liverpool, April 1-7, 8 cases, 2 deaths; London, April 1-7, 2 cases; Southampton, April 1-7, 1 case.

France: Paris, April 1-7, 2 deaths; Gibraltar, April 1-8, 4 cases, 1 death.

Greece: Athens, April 1-7, 4 cases, 2 deaths.

India: Bombay, March 13-20, 163 deaths; Bombay, March 20-27, 138 deaths; Calcutta, Feb. 4 to March 3, 21 deaths; Kurrachee, March 11-25, 24 cases, 12 deaths.

Mexico: Chihuahua, April 1-14, 2 deaths; Vera Cruz, April 7-14, 6 deaths.

Russia: Odessa, March 24 to April 7, 9 cases, 3 deaths; St. Petersburg, March 18-24, 30 cases, 3 deaths; Warsaw, March 18-31, 2 deaths.

Spain: Madrid, March 24-31, 8 deaths.

Straits Settlements: Singapore, March 3-10. 3 deaths.

YELLOW FEVER.

Costa Rica: Limon, April 20, 1 case.

Mexico: Vera Cruz, April 7-14, 2 deaths.

CHOLERA.

India: Bombay, March 13-27, 11 deaths; Calcutta, Feb. 24 to March 3, 70 deaths.

PLAGUE—INSULAR POSSESSIONS, U. S.

Hawaii: Honolulu, March 26 to April 2, 3 cases, 3 deaths: April 9, 1 case.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, April 20, 6 cases, 6 deaths.

India: Bombay, March 13-27, 1428 deaths; Calcutta, Feb. 24 to March 3, 411 deaths; Kurrachee, March 11-31, 292 cases, 223 deaths.

Anderson, R. L., from Charleston to Fort Mill, S. C.

Appleton, H. L., from Cedar Bluff to Center, Ala.

Austin, J. H., from Kansas City, Mo., to El Paso, Texas.

Arnold, J. P., from Philadelphia, Pa., to Clinton and Monmouth Streets, Trenton, N J.

Bennett, P. R., from Daytona, Fla., to Urbana, Ohio.

Brown, Leroy, from St Paul Park, to Endicott Arcade, St Paul, Minn.

Bell, J R, from Charleston to Due West, S C

Benepe, J. L., from Imperial Hotel to Willoughby Building, Indianapolis, Ind.

Boyd, S. J., to 413 Washington Boul., Chicago, Ill

Bowser, O. B. H., from Washington, D.C., to 513 N. Adams Street, Richmond, Va.

Colson, A. C., from Manassas to Quince, Ga.

Corry, F. M., from Milwaukee to Fennimore, Wis

Crockett, E. N., from Lone Creek to 348 Main St., Portland, Oregon.

Cooper, A. R., from 3121 Dearborn Street to 2970 State Street, Chicago, Ill.

Cannon, J., from Des Moines, Iowa, to 407 Security Building, Chicago, Ill.

Cozard, Henry Irving, from Columbus, to 633 W. Market Street, to Akron, Ohio

Corsant, J. C., from Iowa City to Doryville, Iowa.

Cady, C. C., from Des Moines to Truro, Iowa.

Coulter, W. J., from Toledo, Ohio, to Milverton, Ontario, Canada.

Clement C. A., from Danville to Rover, Ark.

Chambers, G. F., from Atlanta, Ga., to Fort Mitchell, Ala.

Dickinson, F., from 70 State to 169 S Clark Street, Chicago, Ill.

Dowdall, W. T., from 3316 Rhodes Avenue, to Rand McNally Building, Chicago Ill

Davis R. B., from Henderson to Henderson, Tenn

Deters, W. A. from Iowa City, Iowa, to Woodstock, Minn.

Elrod, J. O., from Atlanta to Adairsville, Ga.

Eyman, H. C., from Cleveland to Superintendent of State Hospital, Massillon Ohio.

Estopinal, J. A., from St. Bernard to Estopinal, La.

Edwards, J. M., from Chicago, Ill., to West End Hotel, St. Louis, Mo.

Elarbee, G. W., from Atlanta, Ga., to Macon, Fla.

Frank, I., from 1929 Deming Place to Michael Reese Hospital, Chicago, Ill.

Fuller, J. L., from Obion to Gadsden, Tenn.

Fife, J. D., from Proctor, Ind., to Glady, W. Va.

Findley, P. A., from Des Moines, Iowa, to Ozark, Mo.

Fleisher, Rabecca, from 621 No. 16, to 1305 Locust Street, Philadelphia, Pa.

Francis, J. H., from Milwaukee to Medford, Wis.

Grinnell, W. B., from Chicago, Ill., to Wykoff, Minn.

Goggin, R. J., from Suring to Oconto Falls, Wis.

Herrick, H. B., from 2228 Euclid Avenue to 2531 Euclid Avenue, Cleveland, Ohio.

Homer, H. C., from Horton, Iowa, to 2301 Indiana Avenue, Chicago, Ill.

Hummel, E. P., from Chicago, Ill., to La Porte City, Iowa.

Hines, C., from 543 3d Street to 692 Front Street, Portland, Ore.

Hartley, H. H., from Prairie City, Ore., to Centervile, Wash.

Hinde, J. R., from Chicago to Lewiston, Ill.

Hirschman, L. J., Harper Hospital Detroit, to 420 Underwood ave., Detroit, Mich.

Jones, D. W ., from New Orleans, La., to Port Gibson, Miss.

Jackson, F. K., from Waitsfield, to Mary Fletcher Hospital, Burlington, Vt.,

Kirk, A. B., from Chicago, Ill., to Hibbing, Minn.

Kincaid, G. E., from 2020 Pine to 4533 Labadie, St. Louis, Mo.

Kinsinger, J. B., from St. Joseph, to Mound City, Mo.

Kuchar, V., from Kansas City, Kan., to Yukon, O. T.

Krebs, L. L., from Springfield, to Ha-Ha-Tonka, Mo

Little, W. H ., from Kansas City, Mo., to Buhler, Kan.

Lyman, T. P., from 2124 to 2070 Wilcox ave., Chicago, Ill.

Lewis, Le Roy, from Auburn, N. Y., to 90 Warren ave., Chicago, Ill.

Law, S. P., from Bryn Maur, Pa., to H. L. Law, 100 Washington Street, Hartford, Conn.

Lukens, A., from Pelham to 1068 Lexington Avenue, New York City, N. Y.

Lindsey, R. C., from Atlanta, to Irvington, Ga.

Lyon, E. A., from 4658 State street to 534 E. 47th Street, Chicago, Ill.

Morris, J. L., from Chicago, Ill., to Columbus, Ind.

Meis, E. W., from Dyersville to Zwingle, Ia.

McCormick, Olin, from Chicago to Saunemin, Ill.

McClure, C. F., from 1256 to 1106 Lawndale Avenue, Chicago, Ill.

Murrell, C. P., from City Hospital to 1322 Market Street, St. Louis, Mo.

McGahan, C. F., from Aiken, S. C., to Bethlehem, N. H.

McKelway, G. I., from 255 S 17th to 114 S. 18th Street, Philadelphia, Pa.

Nead, D. W., from Box 294 to 3222 Spencer Terrace, Philadelphia, Pa.

Perry, J. C., from Port Townsend, Wash., to Manila, P. I.

Pinkerton, B. G., from St. Louis, Mo., to Care British Post Office, Beyrout, Syria.

Painter, F. W. from Bloomfield to Pilot Point, Tex.

Runyon, C., from Chicago, Ill., to 901 W. South A. Elwood, Ind.

Sweet, A. A., from 4839 to 4785 N. Clark Street, Chicago, Ill.

Sayre, L., from Indianapolis, Ind., to Lake Mills, Ia.

Sholars, A. R., from New Orleans, La., to Orange, Tex.

Sale, H. M., from Washington to Leverett, Ga.

Sassaman, F. W., from Boone Grove, to Valparaiso, Ind.

Spring, C. K., from 46 Fowler to 1451 Dakin Street, Chicago, Ill.

Stevenson, A. F. Jr., from Presbyterian Hospital to 378 La Salle Avenue, Chicago, Ill.

Scholtes, T. W., from Chicago, Ill., to Reads Landing, Minn.

St. John, H. H., from St. Louis to La Belle, Mo.

Sheppard, J. E., from 135 Clinton to 108 Pierrepont Street, Brooklyn, N. Y.

Strow, R. M., from 422 Sherman to 1819 Cherry Street, Toledo, Ohio.

Sieker, A. W., from Chicago, Ill., to Franklin, Wis.

Thornton, J. W., from Lansing to Ayreshire, Ia.

Twitty, W. S., from Charleston to Kershaw, S. C.

Warnell, J. B., from Strumboy, to Coe, Ga.

Weston, F. R., from Owalaska to La Crosse, Wis.

Wood, G., from 903 W. Monroe to 318 E. 55th Street, Chicago, Ill.

Wonnington, F. L., from Ritchey, Mo., to Miami, I. T.

Wilkins, A. E., from Kansas City, Mo., to Ceres, O .T.

The Journal of the
American Medical Association

VOL. XXXIV CHICAGO, ILLINOIS, MAY 12, 1900. NO. 19.

Original Articles.

THE TENEMENTS AND TUBERCULOSIS.

BY S. A. KNOPF, M.D.
NEW YORK CITY.

If I should be asked what conditions are most conducive to the propagation of tuberculosis, and especially pulmonary consumption, I would have to reply: the conditions that prevail in the old-fashioned tenement houses as they still exist by the thousand in this and other large cities. In these tenements there are not only a far greater number of consumptives than in the same area elsewhere, but the proportion is actually greater per number of inhabitants. Thus they not only contain countless centers of infection for old and young, and multiple foci of reinfection for those already afflicted, but these dwellings, with their bad air, darkness and filth, make a cure of the disease impossible, and a lingering death for all those infected by the germ of tuberculosis a certainty. If any one thinks me an alarmist, let him glance at the charts exhibited in this building. There he will see that there are houses in which can be counted as many as twenty consecutive cases of tuberculosis during the last four years. This number represents, however, only the cases reported to the Board of Health. Now, you must not think for a moment that these represent the actual number of cases of tuberculosis existing in that particular tenement. They are only the ones where the disease had so far advanced that medical aid became imperative, a physician had to be called in, and the case was reported. But how many of the moderately advanced cases are made known to either physician or board of health? I venture to say those not reported are more numerous than the reported ones. They constitute that class of pulmonary invalids who are still able to work, and who imagine themselves to be suffering only from chronic bronchitis, and the equally large number of children suffering from tuberculous manifestations other than pulmonary. To the uninitiated it may sound like a paradox when I say that the tuberculous invalid who is still up and about, perhaps supporting his family, is *often the greatest danger to the community, to his friends*, his neighbors, and to those who may succeed him in the tenement in which he lives. It is this class of consumptives who, either from ignorance or carelessness, spread their disease broadcast by depositing their infectious sputum everywhere without any regard to the danger.

In the many discussions which were raised during the past few months previous to the framing of the bill to establish a state sanatorium for the treatment of incipient cases of pulmonary tuberculosis, it was repeatedly argued that we should rather isolate first the advanced and hopeless cases. I appreciate the necessity of public care for this class of patients very much indeed, but the advanced and hopeless poor consumptive is usually confined to one or two rooms, and while ten to one he will infect these thoroughly, he can not do as much harm as he used to when he was still up and about and could spit in dark hall-ways of the tenement, on the floor of his workshop, in the street-car, or wherever his calling may have led him. Thus the advantage of curing an incipient case of plumonary tuberculosis is inestimable. Leaving aside the direct benefit to the commonwealth by making a breadwinner and useful citizen of this pulmonary invalid, who himself and also perhaps those depending on him, might have become otherwise a burden to the community, it is beyond calculation to say how many lives may have been saved by curing that one man before he had a chance to disseminate his disease among his fellowmen in the manner described. To what extent he may do this you can perhaps perceive if I recall to you the fact that the average number of bacilli which the up-and-about consumptive expectorates daily is estimated to be seven billions.

But let us return to our main subject and try to find some explanation for the fearful condition which makes pulmonary tuberculosis an endemic disease of the tenement house. I pointed out to you that there were houses where an unusual number of consumptives have lived and died during the past few years. Now, let us pay a visit to one of them. We pass the throng in the narrow street, make our way through the crowds of children playing on the sidewalk, and enter the dark hallway. The first thing that greets us is the odor peculiar to badly housed humanity. You can not define it, but I know many of you who labor among poor know it only too well. Have you ever thought what this odor really means? It represents the exhalation of a multitude of people, the toxic products expelled during the process of expiration, which settle on the walls, ceiling, and stairs of these hallways. Chemistry has not yet been able to fix its composition; we know it exists and we know its deleterious influence on the individual who is obliged to live constantly in such a house. Some very prosaic people call this smell the smell of humanity, or the smell of poverty. I do not quite like these names for I do not think them either appropriate or just. There can be humanity without smell, and amidst poverty there can be the sweet atmosphere of cleanliness and purity. If the bad odor we perceive in our wanderings through those dark halls must have a name, let us call it the smell of ignorance and greed. It is the result of ignorance on the part of the poor housed there, who do not know the value of fresh air, sunlight, and the cleansing property of water—the trinity which is the best antitoxin against those poisonous products. It is the result of greed on the part of the owner, for only a heartless man could tolerate such a condition of filth, foul air, and darkness as is characteristic of these tenement halls.

---

*Delivered before a conference held under the auspices of the Tenement House Committee, of the Charity Organization Society, New York City, Feb. 20, 1900.

We ascend one more flight of stairs, in the rear or front, it makes little difference, since there is probably a consumptive on each floor. Owing to the expense of artificial lighting the halls are very dim, and though we can not see the dirt on the balustrades we feel that it is there and only reluctantly take hold of them in order not to fall. We arrive at the rooms we are seeking. A knock at the door, a feeble invitation to come in, and we are in the midst of tuberculosis. There are two or three small rooms, but only one receives direct air and light. In a small, dark bedroom lies the patient; there is a different odor in this room, a distinct smell of disease mingled with the odor of cooking. We ask to have the window open, but the patient fears the draft. He is a husband and the father of six children of whom two have died within the last year. The youngest of the remaining children is a few months old; the eldest, a girl of 10, attends to the household duties while the mother goes out to work. We greet our consumptive friend lying there, bid him cheer, and tell him we came to investigate his case. He faintly smiles, and we ask him to tell his story. In a feeble voice, interrupted by fits of coughing, he tells us that up to two years ago he was a strong and vigorous man, he had a good position as a mechanic, lived in a better tenement than now, and drank only occasionally, when life at home became too dull. Once he caught a severe cold. He went to a doctor. A few weeks of rest followed, some medicine, and he got well. After some months he had another cold, the same treatment, the same result. And then again a cold, and so on, until the periods between the times when he could labor and earn became longer and longer. The savings from better times gradually disappeared; a cheaper tenement was sought; the visits to the doctor were given up, and the patient finally ceased to work. To go to the dispensary was too much of an exertion. The faithful wife nursed him tenderly, but soon all the savings were gone. The burial of the two little ones—one having died of bowel complaint and the other of brain trouble—had cost so much that the mother decided to go out to work in order to support the family. While listening to the pitiful story we look around the scantily furnished rooms. The babies are playing on the dirty floor, touching everything with their little hands, putting their fingers in their mouths, and inhaling the dust laden with disease germs. When we consider that this case has only been reported a few weeks ago, and that until then the patient had hardly taken any care with his expectorations, can we wonder that two of the children died within a few months, one from bowel-complaint—which probably was nothing else than intestinal tuberculosis—and theother from brain trouble, which is only another name for tuberculous meningitis. The remaining little ones look pale and underfed. The little mother preparing the evening meal has seemingly a better appearance. She has to do much running out in the street to buy the provisions for the family that she gets more air, and if the father does not feel too badly she wheels out the baby sometimes. Yet to the experienced eye there are already traces of overwork in this delicate child organism. The precautions the patient takes now with his expectoration consist in having placed before him on the floor a cuspidor partially filled with some antiseptic fluid. Owing to his weakness he does not always succeed in depositing his sputum exactly in the center, and sometimes he even fails to hit the vessel at all. We call his attention to this lack of precaution and advise him to use a light mug which he can bring near to him, or moist rags which he should have burned in the evening on his wife's return.

We bid adieu to this interesting family to visit another case which had been reported two flights higher up. But on the next floor we pass a door wide open and hear the rattling of sewing machines, suddenly interrupted by a terrible cough. We halt and listen for a moment—another cough of different pitch, coming evidently from another person. We enter—again a different picture. The air is filled with dust and steam, the odor indescribable. The room is filled with people: an elderly man with dark features, a velvet cap on his head, a wife, a son, a daughter-in-law, two young girls and a number of children, all in one room, the growing persons working over their machines or pressing garments with heavy flat-irons, the little ones playing on piles of cloth or unfinished clothing. These latter with the children playing about them are the mysterious agents which, as newly-made garments, are not only capable of spreading tuberculosis, but are frequently the very medium whereby acutely contagious diseases, such as smallpox, diphtheria, scarlatina, and measles, are carried into the homes of the well-to-do. The description of the home we are visiting has already told you that we have before us a small sweat-shop. Without questioning we recognize in the young mother and in her unmarried sister the two coughers. We venture to ask them as to their condition, but they tell us that they are well. One says she coughs only because she is going to become a mother again; the other assures us she coughs only when she bends too intently over the machine or when the little ones raise too much dust. Both women are plainly in a state of evolution of pulmonary tuberculosis. Both expectorate freely and, alas, indiscriminately, spreading their disease among their own kin and others. They have not yet consulted a physician; they did not feel the need of one, and besides this, it takes time and money. They occasionally get some patent cough-mixture in the nearby drug store. As a matter of course, these cases belong to the class of unreported ones. Should these people ever move before their cases become known to the Board of Health they would leave the germs of tuberculosis in every portion of the rooms, and the new occupants would have all possible chances to contract the disease, for you must know that tuberculosis sputum often retains its virulence in the dried state for a long period of time, but especially so in places where fresh air and sunlight have little access.

Ducor, quoted by Dr. Park of the New York Health Department, in his recent book,[1] relates an instance of a healthy family having been infected with tuberculosis from living in a room which had been occupied by a consumptive two years before, and on examining the sputum-stained wall-paper not only were tubercle bacilli found in it, but on guinea-pigs being inoculated with scrapings from the walls they died of tuberculosis.

We advise the two young women to call in a physician or to go to a dispensary, and urge them not to expectorate except into a vessel partially filled with water, and if this is impossible, owing to the crowded condition of their workshop, to use a small pocket flask for that purpose.

We have one more family on our list, which we desire to visit. Again a cough re-echoing in the hallway would guide us even did we not know where to go. This cough, which is heard on nearly every floor, recalls to one's mind a hospital ward of consumptives. Our third visit leaves a less painful impression, for the rooms we enter are clean. The sufferer is a widowed mother. Thanks to the conscientious advice of the physician the disease seems here to be under control and confined to one member of the family. There is little hope for her recovery, and her total helplessness makes it necessary for her only maiden daughter, otherwise a regular breadwinner, to remain at home and consecrate her entire time to the nursing of her mother. In the home and the faces of both of these women one can still see the traces of refinement and culture. What calamity has brought them into these surroundings must remain their secret, but we know that only with reluctance do they accept the much needed help which comes to them regularly through the medium of the charity organization.

---

[1] Wm. H. Park: Bacteriology in Medicine and Surgery. Philadelphia: Lea Bros. & Co.

Such and sadder pictures you can see daily in visiting the tenement homes of our city. To many of you the thought may have come: why are these people not in a hospital? I must answer you by saying that there is no room for them.

But what can we do to stop this plague if there is no room for the advanced cases in the hospital and no sanatorium for the care of the incipient cases? I believe I may modestly claim that I am an ardent advocate of the establishment of sanatoria and special hospitals maintained by the authorities and private philanthropy, and other public measures to stop the spread of tuberculosis, such as better sanitary laws, more public baths, parks, and playgrounds, especially in the crowded tenement districts, proper physical and hygienic education in our schools, etc.

While the realization of these institutions and proposed improvements will do a great deal toward the decrease of tuberculosis, the greatest factor in solving the tuberculosis problem will, however, be the proper housing of the poor. As long as the law will permit tenements to exist, or to be constructed anew, which, owing to the lack of air and light and want of cleanliness constitute veritable hot-beds of tuberculosis, so long will sanatoria and special hospitals serve only as recipients of the supply of tuberculous patients daily created anew.

Tuberculosis is a preventable and curable disease. Let us emphasize these important points in our crusade against it. In spite of all the opposition which we have encountered I do not fear but that ere long we will have a state sanatorium for the treatment of incipient cases and a special hospital in the vicinity of the city, which will be followed by the establishment of numerous institutions by private philanthropy. My faith in the wisdom of our statesmen and city fathers, and in the generous hearts of the American philanthropists, is too great for me to falter in my hopes. Such institutions—sanatoria and special hospitals—will serve to cure those already afflicted with the disease; but the model tenement house and the model tenement house management will be the greatest factors in preventing the development of the disease. Though, when we consider that we have in this city alone more than ten thousand poor consumptives, those new and model tenements will probably have to at times harbor a few tuberculosis patients; but how much brighter prospect they have of being cured in these new houses with plenty of light and air, perfect ventilation in all rooms, complete sanitary arrangements, and the absence of filth, dirt, and sickening odors.

Since consumption can be successfully treated in nearly all climes, and the essentials of the modern treatment of tuberculosis are plenty of fresh air and light, good food, and judicious medical supervision, the probability of treating an intelligent consumptive patient successfully, even at his home, must certainly be an assurance to us all, since we know that there will not be room enough for all these patients in the institutions. The danger of infection from such a patient in a model tenement house can be reduced to a minimum, and the same might be said in regard to other contagious diseases.

In Germany it has been proposed that in order to control and combat tuberculosis successfully, every person should submit himself to a periodical examination for the possibility of a tuberculous disease, and that this examination should be compulsory, like vaccination.

As to the advisability of inaugurating such a movement in our own country I prefer to suspend judgment; but if I should be the fortunate owner of a model tenement house, I certainly would make the medical examination obligatory for all those who desired to become my tenants. Should there be one, two, or even more among them, with incipient tuberculosis, I would not refuse to these the blessings of a sanitary home, which, as long as we have so few special institutions, will certainly be an addition to their chances of getting cured. But I would have every one of these prospective pulmonary invalids instructed individually as to the precaution he has to take concerning his infectious sputum, and urge him to place himself under medical treatment. I would warn him that though the hospitality of this model tenement house had been extended to him, if he ever wilfully violated the given instructions and regulations concerning the disposal of his expectorations he could no longer remain in the house. Let me remark here, incidentally, that the application of this injunction constitutes the essential part of the discipline in sanatoria and special hospitals in our own country and abroad. Any wilful violation means immediate dismissal. It is this precaution whereby the healthy individual is more protected from contracting the disease in these very homes for consumptives, than probably anywhere else outside of them. I could verify this statement by statistics which I have published before[2] in connection with this subject, but I will refer here only to one of our home institutions, the Adirondack Cottage Sanatorium, under the direction of my esteemed friend, Dr. E. L. Trudeau. During the fifteen years of its existence not one of the medical attendants and nurses, who have lived and labored there in close contact with hundreds of consumptive patients, has ever contracted pulmonary tuberculosis. Thus, I believe, the model tenement house could also be made a place safer from the danger of contracting pulmonary tuberculosis than any other. But I would go even a little further in my precautions to avoid a repetition of such sights as we observed in our wanderings through the tenements of the city. I would see to it that all the tenants should get a sufficient knowledge of what to do in case there is a patient suffering from a communicable or contagious disease in their midst. Leaflets such as the Pennsylvania Society for the Prevention of Tuberculosis issues for distribution should be placed at regular intervals in the hands of the tenants. The titles of some of these leaflets are as follows: "How to Avoid Contracting Tuberculosis." "How Persons Suffering from Tuberculosis Can Avoid Giving the Disease to Others." "Predisposing Causes of Tuberculosis and How to Avoid and Overcome Them." In short, I would found a local society for the prevention of tuberculosis, composed of my tenants and those of other model tenement houses. I would institute reunions and invite physicians and sanitarians to address them, not only on the prevention of tuberculosis, but also on the prevention of other diseases. If I could besides this succeed in procuring one of those noble women who could teach to the women tenants the art of good and economical cooking and careful housekeeping, and procure for all men, women, and children alike, such educational and social features as would make their home life happier and brighter, I would think that the ideal of housing the poor was attained.

---

[2] S. A. Knopf: Prophylaxis and Treatment of Pulmonary Tuberculosis P. Blakiston's Son & Co., Philadelphia.

After the description of all that you have heard and seen since this splendid exhibition has been opened, there is no need for me to tell you of the urgent necessity of better laws concerning the building of tenement houses, and you will realize that it becomes our duty as men and citizens to no longer tolerate existing conditions. But in the meantime we should combine our individual efforts to further all such enterprises as, independent of legislative help, will attain the same end. Though we may not reap what we sow, as our worthy chairman, Mr. Frederick W. Holls, at the opening of this exhibition so beautifully suggested, let us sow our grains nevertheless, and let us sow them well and diligently. In the proper housing of the laboring classes lies the welfare of the community and the sanitary, social and intellectual prosperity of every citizen.

Think of the difference between the old tenement, which we desire to abolish, and the new one we desire to erect, and you will need no further incentive. The one is a beehive of humanity living in filth and dirt, well-nigh without light and air, but with a multitude of sickening odors; with no attractions to foster home life, virtue and temperance; disease breeding in every room; *a hot-bed of tuberculosis and other contagious diseases* from which are spread the foci of infection throughout the city among old and young, poor and rich alike. The other is a well-regulated city within a city, its citizens living in airy, sunny rooms, in modest but attractive homes, which make the longing for the rum shop less, and create a love for temperance and purity; a home where infectious diseases can be controlled and from which the most bitter foe of mankind, "the great white plague"—consumption—can be ultimately and lastingly banished.

16 West Ninety-fifth Street.

NOTIFICATION AND STATE SUPERVISION OF THE TUBERCULOUS.*

BY JOSEPH MATTESON, M.D.

CHICAGO.

The general acceptance of the bacillus discovered by Koch as the exciting cause of tuberculosis in man and the food animals is based on the most careful experimental observations. Without the bacillus there can be no tuberculosis. Therefore, if we should destroy all *these bacilli there* would be an end to tuberculosis. This appears to some logical, simple and, to a degree, possible of attainment. It is a sequence of cause, effect and prevention which has produced a revolution in medical thought and action.

Whereas formerly an occasional instance of apparent communication of the disease from one individual to another excited some speculation as to its possible contagiousness, or was explained by heredity or coincidence, now all is changed—infection or communication from another is almost universally recognized as the essential factor.

Tuberculosis then being an infectious disease affecting a larger number of individuals than any other, it naturally falls into the jurisdiction of state medicine.

Since 1882 there has been an increasing and extending agitation for the suppression of tuberculosis by special state supervision and control of the tuberculous.

We encounter here enthusiasts and extremists on the one hand and doubters on the other, just as in any other imperfectly understood problem in social economics. To quote one of the former, here is a widely circulated statement *by Dr. Biggs, of the New York City Board of* Health, whose earnest work for the suppression of tuberculosis in that city has commanded general approval. He says (*Forum*): "With our present knowledge we have it in our power to completely wipe out pulmonary consumption in a single generation." Again, Dr. Geo. M. Gould, says: "Phthisis, the most fatal of diseases, causing one death in eight, is now proved to be contagious. Its inception depends upon the passage of the living bacilli from one organism to another. When this is prevented the dread affection will no longer mow down its victims. Its prevention seems easy and by two feasible, simple means—the devitalization of the sputum of consumptives, the inspection of dairies and the slaughtering of animals." Dr. Schonock asserts that "Tuberculosis is a preventable disease and one of the unnecessary afflictions of humanity."

Admitting fully that the essential factor in the spread of tuberculosis is the bacillus, that its definite life history, its food, growth, and decay and manner of transmission have become known, let us consider whether the extermination of phthisis is in sight: whether it has become a simple problem—a bacillary premise and a legislative conclusion—the observation and experience of years as to the numerous contributing factors in the production of tuberculosis nullified, or only temporarily lost to sight.

While the dried sputum of consumptives and the milk of tuberculous cows are known to be the common distributors of infection there are other minor ones which may be noted. Spano demonstrated that seminal fluid may infect even when the genital tract is not involved in the disease. Of eight cases he demonstrated the presence of tubercle bacilli in the seminal fluid of three.

They have been found unharmed in the interior of large underdone joints exposed to the ordinary roasting point. Schugard demonstrated their presence in chancres and soft sores and gonorrheal pus. Successful inoculations are reported with the tissues of tuberculous infants, and the amniotic fluid of a tuberculous woman. Hirschfeld recently found the bacilli in the placenta and in the capillary vessels of the fetal liver. It is estimated that from 6 to 20 per cent. of cattle and 5 per cent. of milch cows are infected, and the bacilli may rest in the discharge from the mouth, nose and bowels, drying upon hay and grass. Hogs and domestic pets are not infrequently infected. Jensen reported 44 cases in dogs and 33 in cats. In Berlin an examination of a large number of parrots showed that 25 per cent. were tuberculous. Lortet demonstrated that earthworms are capable of ingesting and ejecting tubercle bacilli without the microorganisms losing their virulence, and that the bacillus has retained its virulence after being buried for one year. Experiments in the laboratory of Professor Flügg proved that it is possible to carry particles of infected sputum in the act of speaking, to a distance of four feet.

Besides the direct inhalation of bacilli from desiccated sputum we must note their deposit on bakers' goods and all articles of food consumed in the raw state. Schnirer rinsed the dust from grapes bought at a street stand and developed tuberculosis in two guinea-pigs out of three. Hoffman found that flies may carry the germs in their intestines and deposit them in their droppings.

---

*Read before the Chicago Medico-Legal Society, Dec. 2, 1899.

It has been estimated that a consumptive may expectorate several billion tubercle bacilli in twenty-four hours, and that there are at least 500,000 living individuals in this country with pulmonary tuberculosis.

What innumerable foci for the spread of the disease are thus provided in houses, railroad cars and public halls. We should expect an epidemic of a clearly communicable disease under such opportunities. At least tuberculosis should be increasing in frequency, but the opposite seems to be true: it has been decreasing for many years.

Heretofore no measures to isolate or disinfect consumptives have been in force, yet the disease is less prevalent than formerly.

The death-rate from consumption in England, from 1838 to 1852, decreased 26 per cent.; from 1852 to 1892, 50 per cent., all ascribable to general sanitary improvements, such as the extension of main sewers and house drainage. Sandberg made a critical inspection of vital statistics in England from 1850 to 1886, and proved that phthisis has steadily decreased in the agricultural districts; the decrease was 50 per cent. in females. Billings shows a decrease of 10 per cent. in the phthisis mortality of the United States between 1880 and 1890. Dr. E. F. Wells, of this city, has personally collected the death returns of the seventeen principal cities of the United States for such periods as they were matter of record, showing a marked decrease of the phthisis mortality in nearly every instance. And yet the centers of infection, though decreasing in numbers, must have been increasing in volume of expired bacilli if it be true, as Theodore Williams, supported by Pollock, claims, that the average duration of phthisis is now four times as long as in the time of Laennec and Louis.

In the extension of tuberculosis we should expect physicians and nurses who are in most frequent and close contact with consumptives and inferentially their bacilli to be unusually liable to infection. Making all due allowance for the errors, inconsistencies, and contradictions assignable to such collections we have considerable evidence on the negative side.

Haupt investigated the history of 275 female nurses who had been in habitual attendance on consumptives: only two became tuberculous. The collective investigation committee of the British Medical Association, in 1883 instituted an inquiry into the communicability of phthisis. Out of 1078 who returned answers less than one-quarter had seen cases which they believed had originated by communication from one person to another.

Da Costa says that in the Vienna General Hospital—before disinfectants were used—there were in three years nearly 8000 deaths from phthisis and not one medical officer or nurse became affected. In the Pennsylvania Hospital there never had been a time when there were not many consumptives in the medical wards. Of 147 resident physicians whose history he had followed but one died of tuberculosis. Of 98 male and female nurses employed in the last twenty-five years, only one showed signs of tuberculous disease.

Williams and Humphrey state that at the Brompton Hospital, during thirty-six years, not one clearly authenticated case of pulmonary consumption originated among all its staff and employees.

The statistics of Friedrichshain Hospital in Berlin, as given by Fürbringer, show that during sixteen years, out of 887 physicians and nurses there were only 9 who became consumptive and 5 of these were tuberculous before entering. Out of 105 Victoria nurses in the hospital 2 to 5½ years each, only 1 became tuberculous. It will not do to attempt to attribute this immunity to disinfection of sputum, as much of the period covered was before the recognition of this source of danger.

There should be plenty of evidence also of the frequent communication of tuberculosis by married persons to their partners in the closest association of life. Dr. Cooper reported, on the other hand, that he had personally known and followed the history of 55 cases of phthisis in married persons; 40 of them had died of it, the surviving partners all living and free from the disease after six to thirty years. Flint, in 670 cases of death from tuberculosis of married persons, found but five cases in which the partners became similarly diseased. Dr. Schnyder observed 844 cases in married people. In only 32 were both husband and wife affected, or one in thirty.

Longstaff has made the calculation from averages that for every 148,000 men who die during the age of married life there would be 4358 of their wives who would have consumption without reference to contagion from their husbands, that is, 1 in about 33.

There is also experimental evidence on the negative side of easy infection from supposedly infected places. Prausnitz unsuccessfully tried to inoculate animals with dust from the floors of railway compartments carrying consumptives for many hours. Kustermann also failed to develop tuberculosis from the dust from the walls and floors of the Munich prison. Herne and Chaplin report, in the London *Lancet*, that they made inoculations of 100 guinea-pigs with dust from various, probably infected, parts of the City of London Hospital—and note that there must have been dry tuberculous sputum in the pathologic workroom. They met with evidence of tuberculosis in only two of the guinea-pigs.

Gardiner has recently inoculated with dust obtained from different rooms in the largest hotel in Colorado Springs, Colo., occupied by consumptives, with negative results in eight cases.

It is frequently asserted, in an offhand way, that certain resorts have become dangerously infected by the concourse of consumptives. Among others, Mentone is cited as a place where tuberculosis has become common among the resident population. But when we read the report of Dr. Bennet, the resident physician, which appears to be the foundation for this opinion, we find that what he actually notes is an increase among the women of the town who formerly worked in the fields with their male relatives, but who subsequent to the incursion of numerous consumptives became laundresses and domestic servants, and he asks if the increase of consumption which he notes only among these workers be not due to change from outdoor life to work in damp, close and ill-ventilated rooms.

Recent statistics of Falkenstein show that the village mortality from phthisis has been reduced 40 per cent. since the establishment there of the sanatorium for consumptives—an odd revelation of the death table, however, is the fact that the mortality from phthisis has increased from 5 per cent. to 15 per cent. in 1892-94, under the antiseptic régime, though still remaining lower than before the establishment of the sanatorium. So also of Görbersdorf, the site of the largest sanatorium of the kind in the world, many thousand consumptives have deposited their expectoration in the streets of the village, so that the inhabitants continuously respired air potentially more or less laden with tubercle bacilli, with the result that the absolute number of deaths among them from phthisis is about half as many as before the establishment of the sanatorium, and the population has doubled.

It is rumored that Colorado resorts have become infected by the numerous consumptives who have sought the benefit of its climate, that there has been a great increase in the cases of tuberculosis originating there, and that the State Board of Health had under consideration the advisability of quarantine against more consumptives. Dr. S. G. Bonney, of Denver, has made a careful investigation and proves these statements to be untrue. The death-rate from indigenous cases was less in 1896 than in 1895—one-third of the patients were under 15 years of age—some the children of tubercular parents. Dr. Solly, of Colorado Springs, says that living for sixteen years among a people of whom many came to the country with tuberculosis, and not a few of whom live in crowded lodgings where free expectoration is commonly practiced, he knows of only four cases which could fairly be assumed to have originated in Colorado.

Dr. Gardiner reports that as a result of a circular letter of inquiry to many physicians of Colorado he could learn from them of only ten cases in fifteen years.

It certainly is a fairly reasonable conclusion from these facts that the spread of tuberculosis is not in accord with the degree of exposure to the bacillus.

The wide diffusion of the bacillus tuberculosis makes inevitable contact with it on the part of every individual in thickly-settled communities—the marvel then is not that one-sixth become fatally infected, but that more than half entirely escape. The evidence presented as to the escape of those in contact with the tuberculous is not offered in abatement of the claim of the bacillus as the essential factor. It is evidence, however, of the fact that one in fair health, living a regular and hygienic life, has little to fear from contact with the bacillus. We must assume, moreover, for those who do become infected, a weakness of resistance to the lodgment and multiplication of the bacilli, inherited or acquired. Hereditary predisposition, however explained, remains practically a factor to be dealt with in the genesis of tuberculosis. There is no time to even suggest all those circumstances of external environment, bodily formation, habits and degenerations which favor acquired predisposition.

A quotation from Jaccoud, recently cited and endorsed by one of our oldest and most eminent teachers, summarizes the interdependence of the bacillus and the predisposition most aptly in these words: "With this class of organisms pathogenesis by changes in the organism is the rule, and its traditional etiology based on heredity, congeniality, predisposition, temperament, somatic or cosmic influences retains all its force." That the natural history of infection, depicted as an active bacillus on the one hand and a comparatively passive resistance of the organism on the other, has been overdrawn, is confirmed also by recent bacteriologic development. H. P. Loomis made inoculations with the bronchial glands of persons dead from accident or acute disease apparently free from tuberculosis. One-fourth of the rabbits developed tuberculosis. Pizzini made observations on the lymph glands of thirty individuals who had died without any clinical evidence of tuberculosis—in twelve instances he developed tuberculosis by inoculation of guinea-pigs.

The recent bacteriologic work of Dr. Adami[1] of Montreal, so graphically presented to our local medical society recently has added new and convincing evidence of the not occasional, but constant, presence of noxious bacteria in the organism, and the equally constant bactericidal activity of the leucocytes and the disintegration and elimination of the bacilli in the glands, the liver and kidneys. His observations point also to the etiology of cirrhosis of the liver by overwhelming invasion of the bacillus coli through coincident breach of the natural line of defense produced by catarrhal disease of the intestinal tract. These additions to our knowledge emphasize the belief that we are to rely for immunity from infection, not solely on an artificial absence of bacteria, but at least in equal degree on the maintainance of the inherent germicidal activity and vigor of the organism.

Until recently public preventive measures against tuberculosis have been directed only to the abatement of the predisposing conditions. The reduction in phthisis mortality as a result of these sanitary measures has been general and in many cases remarkable.

Acquainted now with the exciting as well as the predisposing cause of tuberculosis we are no longer restricted to defensive measures of increased vital resistance, but may undertake offensive action to destroy or limit the bacillus. The ubiquity of the bacillus suggests the magnitude of the task and assigns its accomplishment to that happy period when all men are honest, all women virtuous and the poor no longer with us.

We have it in our power, however, to greatly lessen the dissemination of the bacilli by practicable methods and thus decrease the chances of new infection. While there are many who do not share in optimistic enthusiasm as to the results to be anticipated, few will question the desirability of the attempt by unobjectionable methods.

The measures to be taken for the prevention of tuberculosis naturally divide into those directed against its dissemination by infected food animals on the one hand and those directed against infected man on the other. In regard to the former it may be briefly said that the conditions of success are comparatively simple. Rigid inspection of herds and dairies and the destruction of the infected animal solve the problem, requiring only the necessary law and its efficient execution.

Knopf, in 1897, reported that twenty-three states of the Union provided for official distribution of circulars of instruction as to the dangers of communication of human tuberculosis and the precautions to be observed as safeguards against infection. In Michigan and Pennsylvania resolutions had been adopted to include consumption in the official list of diseases dangerous to public health. In New York notification of all cases is compulsory. It is evident then that action against human tuberculosis has been confined, with few exceptions, to a commendable effort of education of the people, but that there is a growing tendency to more radical action. The statement was recently made in a medical journal that not long ago, in Detroit, Dr. E. A. Shurly was prosecuted by the local board of health because he refused to report his cases of phthisis; that in the defense Dr. Gibbes took the ground that there was no proof that consumption is contagious. Judgment was rendered against the physician and appeal taken to the supreme court. The report of the Department of Health of New York City, 1897, laments the difficulties of effective preventive measures because of the lack of special sanatoria, that is to say segregation, and incidentally intimates that "the work of restriction of tuberculosis has just begun."

On Sept. 15, 1899, the following preliminary resolution was passed by the State Board of Health of California: "*Resolved*, That the State Board of Health consider the propriety of quarantining against human beings and domestic animals with tuberculosis entering the state."

---

[1] The Journal, Dec. 16 and 23, 1899.

In its present form the New York City compulsory registry law stands as a compromise measure: the result of attrition between the enthusiastic contagionists of the Department of Health and the opposition of the local practitioners. It may serve as a model of the most advanced action which will at present meet general approval. With the copy of the act requiring registration of all cases public or private coming under the observation of the physician within one week, is mailed a circular of information for physicians, which says that there will be no sanitary inspection or interference by the Health Department in private cases unless requested by the reporting physician, nor in those in lodging-houses or tenements where the reporter specially asks for non-interference. The law further provides for inspection of the premises occupied by the tuberculous, and the instruction of the family in preventive measures, and the disinfection of premises vacated by the affected, which must not be reoccupied until orders of the Health Department are complied with.

Preventive measures against infectious diseases self-limited, of brief duration, meet common approval, and are enforced with little inconvenience or difficulty. Tuberculosis, on the contrary, affects the individual for a number of years. During this period, instead of being confined to bed by the severity of his illness, the consumptive is little incapacitated for movement: he engages in the ordinary occupations and diversions of life, and frequents stores, factories, public halls and conveyances. During all this time he is hypothetically an ambulant source of infection. If these patients be put on the infectious list by compulsory registration, the first step is to instruct them in the danger of infection from their expectoration, and direct the means by which they shall dispose of this source of infection. If there be no further procedure it would seem as if registration were but a means of obtaining statistics as to the location, age and occupation of the tuberculous not worth the consequential interference in private affairs: for it is evident that the carrying out of the preventive measures must be left to the care and conscience of the individual: any practical degree of surveillance of the careless and indifferent while at large, by the authorities, being of course impossible.

To be more than of instructive benefit there must be, for the careless or incapable, penalties, or means of enforcement of the preventive measures. Segregation offers itself as the only reliable protection. The state must then provide places where these people may be separated from the community with favorable conditions for recovery. Needless to say these places do not yet exist.

The next step in preventive measures against tuberculosis easily suggests itself as a sequence to segregation. If it were well to isolate the tuberculous already in the community, it were better still to prohibit the entrance of more from the outside. So we have quarantine as the legitimate outcome of compulsory registration. The California Board of Health, with characteristic western disregard for precedent, jumped the intervening steps and landed at the top.

While I share in the general recognition of the value of instruction of the people in the danger of the dissemination of tuberculosis by the sputum of the consumptive, and in the method of disposal or disinfection by which this danger may be minimized, I believe that in spite of the agitation for state preventive measures there exists in the mass of the medical profession a strong, if quiet, opposition to any radical steps in state interference with the tuberculous, and that it is based on: 1. An underlying belief that there is a variance between the infectiousness of tuberculosis, predicated on scientific experiment and deduction and the actual everyday facts of common observation. 2. On the instinctive recoil of reason and humanity at the difficulties and hardships of the progressive measures which are the logical sequences of the first step. 3. On the evidence we have that tuberculosis in man is to be decreased by increasing vital resistance, discouraging tuberculous marriages, and improving general and individual sanitary environment and living.

70 State Street.

DISCUSSION.

DR. E. FLETCHER INGALS, Chicago—The control of tuberculosis is one of the most important problems that confront the science of medicine at this time, and this very fact has led to a vast amount of visionary talk by some members of the profession, and to some vicious legislation, in an attempt to accomplish something toward the diminution of tuberculosis. This problem, in its effects on the human mind, excites action similar to that called forth by the financial problem, which is always paramount with the majority of mankind.

A considerable percentage of men will at once accept the most visionary schemes if they promise speedy riches, and a much larger percentage will place implicit confidence in other schemes, right in part, but lacking in one or more of the essential elements of success; so some physicians and laymen adopt, with more or less enthusiasm, absurd, or more or less visionary propositions for stamping out tuberculosis, while they ignore some of the essential facts that must be considered if anything of value is to be accomplished.

Pulmonary tuberculosis is in many respects analogous to croupous pneumonia: both are very frequent and both are frightfully fatal; both are recognized as of microbic origin, and consequently both are considered by some to be contagious; however, it is only in very rare instances that we can find any evidence of contagion in pneumonia, and it is in a very small percentage of cases only that we are able to find anything like proof of tuberculosis having been contracted by one person from association with another suffering from the disease. The diplococcus pneumoniæ is thought to be present in all or nearly all cases of croupous pneumonia and the Koch bacillus may be found in practically all cases of pulmonary tuberculosis; but the diplococcus pneumoniæ is also present in the secretions of the mouth in a large percentage of healthy people, and the tubercle bacillus is also present in some of the tissues of the body in a very large percentage of perfectly healthy subjects, facts which prove beyond doubt that there are *other* elements entering into the etiology of these diseases. These two diseases present so many points of similarity that we can no more hope to stamp out one of them than the other. A well-known pathologist said to me recently, that before we were able to stamp out pulmonary tuberculosis the human family would, in the natural course of events, have become immune to the influence of the Koch bacillus.

We must do all in our power to control both of these fatal maladies, but we can not accomplish much by attacking any one of their several etiologic factors. We should work for that which is possible, and not waste our time crying out and striving for what is far beyond our reach. Before making up our minds what should be done toward requiring physicians and friends to report all tuberculous cases to the Board of Health, we should carefully consider some facts that are often ignored.

Although it is recognized that the tubercle of Koch bacillus is the essential cause of tuberculosis, yet no one has thus far been able to determine why certain individuals are attacked by the disease and why others escape. The knowledge that these bacteria cause tuberculosis under certain conditions, has led many to believe that nearly all persons affected by the disease are infected through some other individual. All told, a considerable number of cases have been reported that can be fairly charged to contagion, but as against this there are hundreds of thousands in which there is not the slightest evidence to justify such a conclusion. Out of about 1600 of my carefully kept records of private patients suffering from pulmonary tuberculosis, I have taken at random 100 records which may be supposed to give a fairly good idea of how the rest would run. Of these 100, only 1 or 2 per cent. show any evidence of contagion. There were just two cases of this sort, in one of which there was no evidence of heredity, but a history of having been associated with a friend who had phthisis. In the other, a widow free from hereditary taint developed tuberculosis 2¼ years after the death of her husband from consumption. These may both have been contagious, but either or both may have resulted from some of the other causes of the disease and the association may have been merely a coincidence. In 27 per cent. of these cases, however, it is found that some other member of the family had had tuberculosis. Some of these may have resulted from contagion, however, in many instances of this kind, as, for example, when the person had grown and left home the patient may never have been at all intimately associated with the other member of the family who had tuberculosis, and there is certainly *no proof* when we consider the influence of heredity. A summary of these cases shows that in 1 instance the father only had died of pulmonary tuberculosis; in 12 the mother only; in 2, both father and mother; in 5, a brother only; in 5, a sister only; in 1, a son only, and in 1, a daughter only had died of pulmonary tuberculosis. All of these may have been the result of inheritance, and certainly they could not be taken as even circumstantial evidence of contagion. That only one should have inherited or acquired pulmonary tuberculosis from the father, but that twelve did from the mother affords an opportunity for interesting speculation. Was it because the young child was so much more with the mother than with the father? The answer would have to allow for the fact that after a father had become seriously sick with consumption he would be quite as likely to be with the children as the mother. Was it because the mother's milk contained the bacilli or because her depraved condition prevented the furnishing of adequate nutrition to the nursing infant? As these were all patients from 20 to 36 years of age, neither of these suggestions would seem to account for the condition. In studying this subject we must take into consideration the very great prevalence of tuberculosis, a fact which of itself would explain the occurrence of the disease in a considerable percentage of the patients in whom it has been attributed to contagion. I believe that by the most liberal estimate less than 2 per cent. of all cases of the disease result from contagion by association with another person having consumption.

Surgeons claim that 80 per cent. of the human family have tuberculosis in some form. Vital statistics show that 12 per cent. of the human family die of pulmonary tuberculosis, and the records from the dead-house show that 25 per cent. of those dying from other than pulmonary diseases have previously had and recovered from pulmonary tuberculosis, which has left distinct scars, therefore, there must be at least 37 per cent. of the human family who at one time or another suffer from pulmonary tuberculosis, and it is probable that the percentage is much larger. Tubercle bacilli have been demonstrated in the bronchial glands in about 40 per cent. of a series of cases of persons dying from acute injury who had never presented any evidence whatever of pulmonary tuberculosis. If this 40 per cent. be added to the 37 per cent. already found we find that 77 per cent. of the human family, at one time or another, harbor the tubercle bacillus either in the lungs or the bronchial glands. If careful examinations were made of all the mesenteric glands and other tissues of the body, it is probable that these bacilli would be found in nearly all; even from the evidence we now have it appears that practically every member of the human family, at least in civilized countries, harbors the tubercle bacillus in some part of his body at some time. Personally I doubt very much whether there is a person in this room who is not at this *moment carrying about a greater or less number of tubercle bacilli.*

For the sake of the argument let us admit that not more than 75 or 80 per cent. of the human family ever suffer from tuberculosis. An important thing to be considered in our efforts to prevent tuberculosis is that it *also affects many of* the lower animals, as cows, chickens, birds, monkeys, fish, etc., and also plants. The facts just presented indicate some of the difficulties which will be met in the outset of this undertaking. Notwithstanding the very great prevalence of the disease, as I have already shown, only a very small number can reasonably be supposed to have contracted it from other persons. It is commonly believed, though we must admit upon very insufficient evidence, that tuberculosis is nearly always caused by the inhalation of bacilli which have been taken up in the air from dry sputum; yet it is a well-known fact that these germs are usually destroyed by a short exposure to the air and sunshine. I am inclined to the popular belief, but we must admit that no one knows the origin of the bacillus. Pathologists have recently shown that these bacilli are often branching like the ray fungus of actinomycosis, and that their passage through cold-blooded animals produces bacteria morphologically very different from the Koch bacillus. Miller has succeeded in obtaining bacilli from grasses that are morphologically identical with the bacillus of tuberculosis. Much valuable information concerning the branching forms of the tubercle bacillus will be found in an article by Friedrich and Nösske (*Beitrage zur Pathologischen Anatomie und zur allgemeinen Pathologie*, Jena, 1899), and in the articles by Schulze and Mubarsch; the two latter will be found in *Zeitschrift fur Hygiene und Infectionskranheiten.* Among others who have worked with these actinomycelial forms of the bacilli are Coppen Jones, E. Klein, Babes, Dixon and H. Bruns. Lydia Rubenovitch has succeeded in obtaining the bacilli from butter, and the experiments of Strauss with cooked meat show that the bacilli may retain their virulence for a long time under most adverse circumstances and be introduced with the food.

When the state libels a person as a consumptive it places on him a brand like that of Cain, which can never be effaced. I have seen many patients who believed they had consumption, who insisted on not being told of it even though they came to me for a diagnosis. In the majority of cases that I see the friends request me not to let the patient know that he has consumption, believing as they do that it would work great injury to the sufferer. From my experience it is my impression that at least 75 per cent. of those having this disease do not wish to be told of it even by their physician, and it is my uniform practice not to tell a patient that he has it unless he requests the information, while it is comparatively rarely that one of these unfortunates asks me what is really the matter.

I am confident that a law requiring physicians to report to the state all cases of tuberculosis that come under their observation would cause patients and friends, from fear of being reported, in a large percentage of cases to avoid the physician as long as possible, thereby losing the most important, and in many cases the only, chance for successful treatment. Bringing the matter directly home, I would ask how many of you physicians would report to the state a case of consumption in your own household. I have no doubt that some would do so from conscientious motives, but I am quite as confident that the majority of physicians would feel that their duty to the patient required them to protect him from this stigma. Two results of such a law would be that many patients would not consult the physician until it was too late and that the majority of physicians would consider themselves in duty bound to protect their patients rather than to turn them over to the tender care of the state.

The branding of consumptives could not fail to be detrimental in many cases. To many a person the mere knowledge that he had consumption would be like a warrant dooming him to slow death, and of the 60 or 70 per cent. of those having pulmonary tuberculosis who now recover, many would die from the depression caused by the mortification, disgrace or despair of being thus pointed out. So true is this that I firmly believe that in many cases it would be much more humane for the state to give such persons an overdose of morphin *or chloroform.*

Our duty as physicians is not only to heal the sick but to comfort them and their friends, and I can hardly conceive of a more cruel thing, in some instances, than it would be to *inform on them to the* public officers, especially as there is little reason to think that these officers could do any good to the patient or in protecting others. As not only friends but physicians would probably conceal the majority of tubercular patients as long as possible, if we had such a law, it could not be thoroughly enforced and it would be worse than useless. It will be urged that the good of the many must be considered, as in the case of diphtheria, scarlet fever and other markedly contagious diseases, but when we recollect that 80 per cent. of the human family have tuberculosis, the impracticability of such a law seems self-evident, and it appears clear that it would be much better to banish the 20 per cent. who can not be proved to have the disease, in order that they may be removed from its dangers. They certainly would be better able than consumptives to fight the battles of life alone. Even if the application of the law were confined to the 12 or 20 per cent. of the consumptives who can not be recognized even by the laity, we would have to reckon with very many hostile to the law because each of these consumptives has friends who would not tolerate his banishment. There are not a few who would object even to killing off cows and other domestic animals that might possibly be harboring the bacilli. With the tuberculin test tuberculosis in the lower animals can be readily detected, in most cases at an early stage, but it is not infallible; therefore, in order to be sure that we are getting rid of all of those infected it would be necessary to destroy a great number that were simply suspected, although a positive reaction may be accepted as practically a sure sign that the disease is present somewhere in the animal. If we could destroy all suspected animals and the 80 per cent. of the human family who have tuberculosis, it is a question whether the 20 per cent. that were left would be free from infection. As I have already stated, no one can tell whence the tubercle bacillus comes, and no one can be certain that he is not already tuberculous or that he is not at least harboring this omnipresent microbe. It does not appear to me practicable to quarantine or sequestrate those suffering from consumption.

From what I have said many may think me pessimistic and hopeless about the management of these unfortunate cases. This is not the case, but I have no sympathy with the extravagant views entertained by those who believe that the prevention of tuberculosis is to be carried out on the same lines as that of yellow fever, and who believe that if this be done the disease would be stamped out within a few years. Although libeling and quarantining tuberculous patients can not be satisfactorily carried out, and although it would be of doubtful utility if it could, I think there is much that may be done to check the spread of the disease, or to cure it in individual cases, in its early stages. Although we do not know where the tubercle bacilli come from, it is believed by most physicians that most patients acquire tuberculosis through the atmosphere from the dried sputum of tuberculous human beings, the only animals so far as I know that have the disgusting habit of spitting; therefore, everything practicable should be done to prevent expectoration on the streets or in other places where the sputum may become dried. This should apply not only to those who are recognized as tuberculous but by every one else, for it is probable that the majority of persons suffering from consumption recover before the disease is detected.

Friends and physicians should do all in their power to dissuade consumptives from marrying.

Children predisposed to consumption should be carefully watched to prevent deterioration in the general health and they should as far as possible be placed in good environment.

The most important thing in the prevention of consumption is attention to the general health, especially of children and young people, so that in case the bacilli find entrance into the system the local power of resistance may be sufficient to prevent harm. The person affected with consumption should, if possible, be immediately removed from a damp or otherwise deleterious atmosphere; the pale, feeble child should be kept in the open air as much as practicable and his diet should be carefully watched to secure proper nutrition. Such persons should be carefully clothed, sleep in well-ventilated rooms, and should not be overworked. The young man or young woman predisposed to consumption, if in school, should be carefully guarded to prevent excessive application to books and undue confinement. They should be induced to take an abundance of vigorous exercise, and they must be supplied with good food; if away from home they should be especially cautioned to shun poor boarding-houses.

Those having the responsibility for the young should attend at once to the first evidences of impaired nutrition or strength, and should not wait for the development of cough or other suspicious symptoms before they adopt proper methods for the prevention of disease. With the first evidences of the approach of tuberculosis, such as pallor, weakness, malaise, acceleration of the pulse and daily rise in temperature, symptoms often attributed to malaria, the best methods for detecting the disease should be at once adopted, and the measures most calculated to abort or cure the individual case should be instituted at once. Physicians and enlightened laymen should join forces in disseminating among the people a knowledge of the predisposing causes of this disease and of the methods best calculated to prevent or abort it.

In conclusion I would ask, should we have laws requiring all physicians to notify the state authorities whenever they find a patient suffering from consumption? To this I would answer emphatically, No! not only because of the injustice and inhumanity of such a law, but because it could not be enforced.

Shall consumptives be proscribed, sequestered or quarantined? To this I would also answer, No! because at best only a limited number of those so affected could be thus treated, because of the deleterious effects on the patients themselves, because these patients are sick and need sympathy and care rather than banishment, and because it would be cheaper and more humane to banish those who have never been infected by the tubercle bacillus.

DR. H. N. MOYER—In discussing the subject of the control of tuberculosis, there has been not a little narrow reasoning based on the idea that it was only necessary to catch and kill the germ of tuberculosis in order to stamp out the disease. This conception of the public health duties is reflected in the laws which it is urged should be adopted in the prevention of this malady. They include quarantine, notification, and other equally drastic measures. The essayist, and Dr. Ingals, in the discussion, both point out that such laws are foredoomed to failure. It is not practicable to try to stamp out the disease in this way. All that such laws can possibly do is to educate the people to the view that tuberculosis is to a moderate extent contagious, and that care should be exercised in the disposal of the sputum of these individuals, and that such a patient may be dangerous to those about him. The failure of attempting to stamp out tuberculosis by quarantine and segregation is shown by the efforts which have been made in Hawaii for the past twenty-five years, to banish leprosy. During all this period the Sandwich Islands have tried to enforce a law compelling lepers to live upon an island separate from their friends. Every effort is made to detect cases of leprosy, and, as soon as found, they are sent to the island. Most of those who have studied leprosy on the islands agree that all of these efforts have failed—that leprosy is now quite as common as it ever has been. This is due to the fact that people have no fear of the leprosy; that cases are concealed as long as possible, and that in this class of infections quarantine is of but little value. In diseases in which duration is short and the period of danger of infecting others is comparatively brief, then segregation may be useful. Such is not the case with tuberculosis. The histories of leprosy and tuberculosis are quite parallel.

Control of tuberculosis is to be effected by general hygienic methods which look to improvement of dwellings and food of consumptive patients. Much is to be hoped from the establishment of sanatoria, to which cases may be sent in their incipient stage. It is just as important that hospitals should be located for the care of this trouble as that we have hospitals for the care of those attacked by the acute infections. An individual should not be compelled to work in confined and ill-ventilated quarters until his lungs are so diseased that he can no longer follow his employment. He should be given a chance early in the history of the disease. This, however, should not be compulsory. Medical men should not be compelled to inform on their patients, but the state should co-operate with them in securing early treatment for tuberculosis.

Legislation must always be behind and not in advance of public opinion. Public health laws which seriously interfere with personal liberty can only be enforced when an active public sentiment is behind them.

Dr. E. Klebs—I quite agree with Dr. Moyer that we must have public sanatoria, but how many? In Chicago alone we would require 20,000 beds. It is not possible to seclude all these patients—to take them away from their families, or the workshops or from the schools, but we must look to reducing this danger as much as possible. We must have physicians appointed to inspect schools; if a school inspector finds a child that expectorates an enormous quantity of tubercle bacilli each day, that child must be excluded from the school. The dissemination of tuberculosis in the workshop is another source; there should be an inspection of these people. If they can not be excluded, there must be means furnished by which the expectoration may be sterilized or destroyed. In tuberculosis, the state has very great duties to perform, and it is a matter for careful consideration; radical measures, however, should not be resorted to.

Dr. A. R. Reynolds—I have never been able to make myself believe that good could be accomplished by insisting on exclusion of tuberculosis. I am of opinion that we already have law enough in the state to insist on tuberculosis being a notifiable disease, but I believe, with the essayist, that it would be a difficult matter to segregate patients. If a patient knows how to take care of himself, he need not be excluded. It is along this line that the laws must be shaped; the state can only help in disseminating this information. I think the public is well informed on these matters at the present time, considering that it is only a few years since the discovery was made; all understand that this is an infectious disease and are eager for information regarding protection against it.

I do not quite agree with Dr. Ingals in his assumption that patients do not wish to be told of their ailment, especially when I consider that 70 per cent. of his patients are consumptives. Although I have no reason to doubt his word, I can scarcely conceive that so large a percentage would shrink from a knowledge of their trouble. It is for this reason that they consult physicians, and if it were not for the skill that physicians have in diagnosing disease, the calling would not be so much sought as it is. In the treatment of consumption they are not altogether successful. This subject can not be discussed too often nor published too widely.

Dr. Jos. Matteson—I did not suppose that this was the popular side of this subject at the present time, judging from the extended discussion it is receiving and the number who seem to be in favor of excluding tuberculous patients. I have been gratified by the substantial concurrence of opinion expressed by the gentlemen who have discussed the paper this evening.

TRAUMATIC PERFORATIONS OF THE MEMBRANA TYMPANI.*

BY FRANCIS R. PACKARD, M.D.

Aurist to the Out-Patient Department of the Pennsylvania Hospital; Instructor in Laryngology in the University of Pennsylvania; Dean of the Philadelphia Polyclinic, Etc.

PHILADELPHIA.

In 1500 consecutive cases taken from the out-patient record books of the Pennsylvania Hospital there were eleven in which the membrana tympani was ruptured by traumatism. The cases were as follows:

Case 1.—An Irishman, aged 46 years, a longshoreman, was struck on the head by a hammer weighing 3 pounds, which had fallen forty feet. He sustained a severe lacerated wound of the scalp and was rendered unconscious for some minutes. On recovering consciousness, he was deaf in the left ear and suffered from much roaring noise in it. The left auditory canal contained considerable blood. There was a large laceration in the anterior lower segment of the left membrana tympani. At the end of three weeks' treatment his hearing was normal and he had no tinnitus.

Case 2.—A longshoreman, five days previous to presenting himself at the dispensary, had fallen thirty feet, sustaining severe contusions of the head and shoulders. Ever since the accident there had been considerable bloody discharge from his left auditory meatus, and he had had much tinnitus in that ear and been totally deaf in it. Examination showed that while sound conduction through the external auditory canal was lost, bone conduction remained normal. There was a large perforation in the central portion of the left membrana tympani. This case pursued a very tedious course. Three months after the patient's first visit the discharge had ceased, but hearing was impaired and there was considerable tinnitus.

Case 3.—A telegraph operator, aged 39 years, who one week before coming to the dispensary was poking in his left ear with a penholder, suddenly felt something give way and suffered a sharp pain and heard a roaring noise in his left ear, which at once became deaf. Next morning there was much bloody discharge. Examination showed his left external auditory canal full of bloody pus, and after careful cleaning a large ragged perforation was found in the lower posterior portion of the left membrana tympani. The handle of the malleus was fractured, the two fragments being bent on one another at an angle of 45 degrees. This man recovered perfectly in six weeks, the discharge ceasing, tinnitus disappearing and his hearing becoming as sharp as ever. His right membrana tympani was perfectly normal.

Case 4.—An Italian musician, three weeks before presenting himself at the dispensary, had been struck by a very high sea-wave, while bathing in the surf. It knocked him down and when he arose and got out of the water, he found he was deaf in his left ear, and had much roaring and pain in it. The next day a bloody discharge made its appearance at the left external auditory meatus. Examination revealed a small amount of purulent discharge in the external auditory canal, and a linear, vertical perforation in the lower posterior segment of the membrana tympani. He remained under treatment for some weeks, and when last seen his discharge had stopped, but his hearing remained somewhat impaired, and he still had a slight amount of tinnitus.

Case 5.—An Italian artist, who had received a blow on the left ear two days before coming to the dispensary, presented himself, complaining of deafness and roaring in the left ear. Examination revealed a considerable bloody muco-purulent discharge in the left external auditory meatus. On removing it, a large tear was visible across the center of the left membrana tympani. This man's discharge ceased in a few weeks, and his hearing was restored and the tinnitus checked.

Case 6.—A married woman, aged 36 years, presented herself at the dispensary with a history of having received a blow on the left ear one week before. Since then she had been deaf in the left ear, and had had much tinnitus in it, andconsiderable bloody discharge. The left membrana tympani showed a large perforation, the definite location of which was not obtained at the first examination, and subsequently, through neglect, no note was made of it. This woman pursued a good course to complete restoration of function and cessation of symptoms.

Case 7.—A laborer presented himself complaining of pain, deafness and tinnitus in the left ear, from which there was considerable bloody discharge. He said that three days before, while working in a caisson these symptoms had suddenly presented themselves. Being a very unintelligent man, no more definite history could be obtained. There was a large perforation in the center of the membrana tympani. He recovered perfectly in a few weeks, except that when last seen he complained that he still had a sensation of fulness in his left ear.

---

*Read before the Philadelphia County Medical Society, Dec. 13, 1899.

CASE 8.—A Russian carpenter had been struck on the head eight days before coming to the hospital. No history was obtained as to how or with what he had been struck. He complained of pain and deafness. The right external auditory meatus was full of bloody pus, and there was a large ragged perforation in the right membrana tympani, the exact location of which, however, was not noted. The man did well and was discharged as cured in a few weeks.

CASE 9.—An Italian laborer was struck on the left side of his head with the handle of a pitchfork, one week before coming to the hospital. From that time he complained of pain, deafness and roaring in his left ear. There was a small amount of bloody discharge and a round perforation just posterior to the central portion of the left membrana tympani. Within ten days the discharge had ceased and function was restored.

CASE 10.—An errand boy, sent to the out-patient department from the wards of the hospital, had one week before fallen down an elevator shaft and sustained many lacerated and contused wounds of the scalp. From this time he had pain in the left ear and some deafness and tinnitus. Some bloody purulent discharge was removed from his left external auditory meatus; after this a perforation in the anterior lower segment of the left membrana tympani became visible. Within ten days the discharge and other symptoms had ceased.

CASE 11.—A laborer came to the out-patient department with a history that a heavy bag of corn had dropped on his head four days previously. Since that time his right ear had been the seat of continuous roaring noises, much pain, and considerable discharge. He suffered much from vertigo. After cleansing a considerable quantity of dried blood from the right external auditory canal, a large ragged perforation was revealed in the anterior lower segment of the right membrana tympani. His left membrana tympani was very opaque and considerably retracted. After treatment for about six weeks he was discharged cured, with complete restoration of function.

As to the relative frequency of such lesions compared with other pathologic conditions of the ear, it will be readily seen, by reference to the figures I furnish, and to those given in many statistical articles on the subject, that their number is not very great; this in spite of the fact that the injury is such as to produce symptoms which stand in such immediate relation as to cause and effect, and possess such an alarming significance in the patient's mind as to prompt his early recourse to a physician for relief.

Randall,[1] in a tabulation of 5412 cases of ear disease, found but five traumatic perforations of the ear drum.

Treitel[2] in 831 cases occurring in thirteen months in Professor Gottslein's clinic, found 18 of traumatic perforation.

Politzer[3] says that traumatic lesions of the drum may be produced: "1, by direct penetration of a foreign body into the membrana tympani; 2, by the extension of a fracture of the cranial bones to the membrane; 3, by a sudden condensation of air in the external meatus or in the tympanic cavity, more rarely by a rapid rarefaction of the external air. He gives the statistics compiled by Brigade Surgeon Chimani, from 5041 cases of ear trouble. Of these 54 were cases of traumatic perforation of the drum. They were caused in 38 cases by falls on the head, in 3 cases by a kick from a horse on the head, in 2 cases by strokes upon the head with wooden clubs, in 2 cases by the playing of brass instruments (signal trumpet and helicon), in 2 cases by the report of a loaded gun in the immediate neighborhood of the ear, and in 1 case by a fall into the water from a considerable height."

G. P. Field[4] analyzed 400 perforations of the membrana tympani and found that eighty of them could be attributed to traumatism. In a number of instances the perforations were double, so that the number of cases does not correspond to the number of perforations.

As to the causes producing these traumatic perforations, he found them to be: Falls on the head, 11 perforations; other injuries to head, 30; boxing ears, 8; from other blows on head, 16; penholder in ear, 1; hairpin in ear, 1; foreign bodies in ear, 4; kick of a horse, 1; blows from cricket balls, 2; injury from football, 1; fall of flower pot on head, 1; violent sneezing, 2; pouring turpentine in ears, 2; pouring urine in ear, 1; syringing by a doctor, 1; scald of ear, 1; silver nitrate used by patient in ear, 1.

The causes of the traumatic perforations in the cases I report were as follows: Struck by weight falling from a height, 2; fall upon head, 2; the result of introducing a foreign body, 1; struck by wave while bathing, 1; blow on ear—fist—2; working in caisson, 1; struck with weapon, 1; blow on head, but from what not ascertainable, 1.

But one of the cases which I report was the result of direct penetration of the membrana tympani by the introduction of a foreign body. This was Case 2 who penetrated his drum with a penholder with which he was scratching his ear.

Sajous[5] reports two cases from Turnbull's clinic, in which the perforation resulted from this cause. In one there was a fracture of the malleus similar to the one seen in mine, and appended to the article are references to cases of the same nature accompanied by a like fracture reported by Meniere,[6] Politzer,[7] R. F. Weir,[8] and Hinton,[9] with mention of a short notice of such a case with specimen in Toynbee's collection, now in the Hunterian Museum of the College of Surgeons of London.

Gorham Bacon[10] reports a case of perforation of the membrana tympani by the twig of a tree, which occurred in a man who was walking through some woods. He also[11] reports two other cases, one due to puncture with a piece of stick, the other occurred whilst scratching the ear with a pin.

A. H. Nott[12] reports the case of a man whose left membrana tympani was ruptured by the penetration through it of an umbrella rib. The injury resulted in the entire loss of the sense of taste on the left side of his tongue.

A most interesting case from a medicolegal point of view is reported by A. S. Barling.[13] A man, while in a brawl, was stabbed in the right ear with a knife. The knife blade was so very thin that it caused no external wound, but produced an incised one of the membrana tympani, one-fifth of an inch [illegible]ng, just posterior to the handle of the malleus; this [illegible] found after [illegible] exa[illegible] Th[illegible] hemor- A[illegible] [illegible]bing had been done, although the victim insisted that his assailant had a knife in his hand. Finally, after some interval of time, the knife was found near the scene of the assault, where it had been thrown away by the aggressor as soon as he had done the stabbing.

Urbautschitsch[14] reports a case in which a man attempted suicide by shooting himself in the right temple. The bullet could be detected through the external auditory meatus in the tympanic cavity. It was extracted by chiseling away the surrounding bony structures.

A. M. Shield[15] saw an interesting case in which molten lead had been splashed over the side of the patient's head and some had run into his right external auditory meatus, almost entirely filling his tympanic cavity, some even entering the Eustachian tube. The lead was removed by filling the ear with liquid mercury and allowing it to remain in the ear for sixteen hours, when the softened mass was easily syringed out.

Among other interesting cases of penetration of the membrana tympani by foreign bodies introduced through the external auditory canal may be mentioned those reported by Mandelstamn,[16] Treitel,[17] F. L. Jack,[18] Barr,[19] Tangeman,[20] Braislen,[21] L. S. Somers[22] and A. H. R. Stewart.[23]

Oftentimes the drum is perforated during clumsy efforts at extraction, as in one of Bacon's cases, and not by the unaided impact of the foreign body.

Cases of rupture of the membrana tympani due to syringing the ear are not rare. Such cases are reported by S. Latimer Phillips[24] and Sexton.[25]

In all the above-mentioned the foreign body causing the perforation was introduced through the external auditory canal. Cases have been reported, however, in which the membrana tympani was perforated by a foreign body entering the tympanum through the Eustachian tube. P. Hoover[26] reports such a case in a child 2 years old, who swallowed a pin, which subsequently emerged point first, through the membrana tympani. The child had been given an emetic, and it was probably forced into the Eustachian tube by the effort of vomiting. L. W. Reynolds[27] reports a curious case occurring in a woman who was suffering from the vomiting of pregnancy, and in her expulsive efforts ejected a number of round worms from her mouth, nostrils and both ears. The drums were torn and free bleeding from both external auditory meati occurred.

None of the cases in the series I report were due to extension of a fracture of the cranial bones. Cases of this nature are reported by J. M. Ray,[28] Gorham Bacon,[29] Cornelius Williams,[30] J. D. Rushmore,[31] Scheibe,[32] A. Alt[33] and R. Barclay.[34]

In the 11 cases which I report there were 4 patients with perforation of the membrana tympani due to the sudden condensation or rarefaction of air in the external auditory meatus, beyond a doubt. Three more could be with probability assigned to this cause. One of the latter had been struck on the side of the head by a bag of corn falling some distance, another had been struck in a quarrel, most likely by his opponent's fist, the third had received a blow directly over the ear from the blunt handle of a pitchfork. Of the 4 undoubted cases, 1 was the result of the impact of water, 1 resulted from working in a caisson, and 2 were the results of blows with the fist.

Probably the latter is the commonest cause of perforation due to sudden condensation of air in the external auditory meatus. In the cases which result from it the lesion is usually unilateral and found in the left membrana tympani, because the person who strikes does so with his right hand as a rule. In former days, when boxing the ears was a popular manner of administering reproof in school, the number of cases of perforation resulting from this form of punishment is said to have been very large. One recalls the method of punishing school boys by boxing both sides of the head simultaneously with two books, referred to by Thackeray in his Roundabout Paper entitled "De Juventute." In Chimani's 38 cases of rupture of the ear drum due to blows with the fist, 36 were in the left ear, only two in the right.

Dalby[35] says that the injuries resulting from boxing ears are of three kinds: 1. The hearing may be immediately damaged without injury to the membrana tympani, the loss of hearing being due to injury of nervous structures. 2. The membrana tympani may be ruptured, the perforations usually assuming the form of a vertical slit which, if left alone, heals in a few days, though occasionally suppuration is seen. 3. Without rupturing the membrana tympani an acute otitis media may occur, with possible ultimate perforation of the membrana tympani and loss of hearing.

Cases resulting from blows with the fist upon the ear are reported by C. R. Agnew,[36] Dills,[37] Core,[38] Gorham Bacon,[39] Treitel,[40] H. Richards,[41] W. H. R. Stewart,[42] A. A. Hubbell,[43] Fetterhoff,[44] Braislin[45] and R. Barclay.[46] C. R. Agnew and D. Webster[47] and A. H. Cheatle[48] report cases of double perforation of the membrana tympani resulting from blows with the fist.

Cases of rupture of the tympanic membrane from the condensation of air produced by discharge of artillery or the explosion of powder are reported by Sexton,[49] Bates,[50] and C. C. Colles.[51]. C. H. Alden [52] reports a case of repeated ruptures of the membrana tympani occurring in an artilleryman, finally resulting in total deafness, requiring his discharge from the service. Moos[53] reports one of a chemist who was working with some chloraphthalic ether which exploded. Both of his membranæ tympani were ruptured as a consequence, and he developed a suppurative otitis media.

Cases of traumatic perforations of the membrana tympani as the result of working in caissons or diving bells have been reported by Moos,[54] Sexton,[55] G. E. Bellows.[56]

Two interesting cases of loss of hearing due to condensation of air in the external auditory canal, by the impact of water in diving, are reported by H. Augustus Wilson.[57]

Of air pressure on the inner surface of the membrana tympani causing rupture, I have gathered three cases: A. G. Welsford[58] reports a man who suffered from chronic bronchitis, and during a violent coughing spell ruptured both ear drums. S. L. Phillips'[59] patient with perforation due to syringing the ear, subsequently sustained another rupture of the same drum while blowing his nose. C. R. Agnew[60] reports the case of a man who ruptured his left membrana tympani while blowing his nose. Agnew thinks there was undoubtedly pre-existing disease of the membrana tympani, but the man positively denied ever having noticed any previous trouble with his ear. E. D. Clark[61] reports one in which a man was struck by lightning, sustaining burns of the left side of the head, the neck and breast. Some days after the accident the ear began discharging pus, and an examination revealed a perforation in the left membrana tympani. The auricle had not been injured in any way. The difficulty in this case lies in deciding whether concussion caused the perforation, or whether it was due to a burn produced by the lightning. The perforation healed, but the man remained deaf and suffered much from tinnitus. Ludewig[62] reports a case in which the drum membrane was undoubtedly ruptured by the shock of the lightning bolt.

The location of the perforation in the drum membrane varies with the cause producing it. In those cases due to penetration by a foreign body, Politzer states that it is more frequently in the posterior than in the anterior portion of the drum; when due to extension of a fracture of the cranial bones, the perforation extends fissure-like from the superior or anterior wall of the meatus, and, if resulting from sudden condensation of air in the external auditory meatus, it presents itself as a gaping orifice, more frequently in the posterior portion of the membrane. Treitel[63] carefully studied eighteen cases of traumatic perforation, in 11 of which the perforation was in the inferior half; of these, 8 were in the anterior inferior portion, and 3 in the posterior inferior portion, from which he concludes that the inferior and anterior portions constitutes the elected region. This statement agrees with Schwartze, but differs from Hassenstein, who considers a traumatic perforation in front of the malleus as very rare. Treitel makes the statement, which is now acceded to by most authorities, that rupture of the drum from sudden condensation of air can occur in the perfectly healthy drum and with a free Eustachian tube, but that it is more apt to occur in persons whose Eustachian tube is not perfectly patulous or who have ear drums which have been the site of previous pathologic changes. In Chimani's 38 cases of rupture due to boxes on the ear, 27 were in the posterior inferior quadrant, 9 in front of and below the malleus, 2 in the posterior superior portion of the membrane.

As to the ultimate termination of such injuries, if the perforation is uncomplicated with injury to the ossicles or labyrinth, the prognosis is good, the perforation usually healing. In Nott's case, which was followed by loss of taste on the injured side, there was evidently accompanying injury to the chorda tympani. All authorities agree that the best possible treatment is to leave the handling of the case to Nature as far as possible. In those I report a little clean, dry cotton was kept constantly in the external auditory meatus, and no attempt made to do anything beyond the gentlest possible cleansing in cases where there was much discharge. In Chimani's 38 cases of perforation due to boxing the ears, perfect recovery without functional disturbance occurred in 34; in 4 only complete cure was effected.

Cases of traumatic perforation of the drum present several points of medicolegal importance: 1, to determine that the rupture is due to traumatism; 2, to determine the amount of permanent functional or organic damage wrought by the injury, if it exists.

In the 1500 cases from the books of the out-patient department of the Pennsylvania Hospital, there were 3 in which it was claimed that the patient's ear condition resulted from an injury. One was a man who claimed to have fallen from a trolley car. He had chronic suppurative inflammation of the ear, which, he said, had only begun to suppurate since the accident. That this was chronic was proved by the fact that the ossicles were necrosed, and, moreover, there was evidence of old mastoid trouble, notwithstanding the fact that the injury was said to have been sustained only a few days before his visit to the hospital. The other two cases in which injury was claimed were both school children, whose ears were said to have been boxed, but in whom careful examination and questioning elicited history of previous suppuration. Politzer says that the most definite evidence of the traumatic origin of a perforation is its rapid cicatrization. The only way in which the amount of functional disturbance can be determined is by repeated careful tests of the hearing power by the usual methods employed for that purpose. Much care must be taken in these tests to detect simulated deafness, as in many of these cases the examination is required to determine the claims for damages of the patient. It must always be remembered that the amount of disturbance of hearing bears but little proportion to the amount of destruction of drum tissue. Patients are frequently seen in aural clinics who have suffered complete destruction of the drum and yet retain their hearing to a remarkable extent. In cases of traumatic perforation which are accompanied by labyrinthine involvement the amount of labyrinth mischief will be the chief guide as to the functional disturbance which the patient's organ of hearing has sustained.

I desire to express my thanks to Dr. George C. Harlan for his kindness in permitting me to avail myself of the records of the Pennsylvania Hospital.

BIBLIOGRAPHY.

1. Annals of Ophthal. and Otol., 1894, iii, 59
2. Transl. in Arch. of Otol., 1890, xix, 110.
3. Diseases of the Ear.
4. Med. Press and Cir., 1886, xxx, 85, 169.
5. Med. and Surg. Reporter, 1879, p. 161.
6. Gaz. Med. de Paris, 1856, No. 50.
7. Diseases of the Ear.
8. Trans. Am. Otol. Soc., 1870.
9. Questions of Aural Surgery.
10. Trans. Am. Otol. Soc., 1882, iii, p. 541.
11. N. Y. Med. Jour., 1887, xlv, 513, and N. Y. Med. Rec., 1885, xxvii, 403.
12. Indian Med. Gaz., 1893, xxviii, 13.
13. Brit. Med. Jour., 1897, ii. 1180.
14. Jour. of Laryng., Rhinol. and Otol., 1897, xii, 255.
15. Lancet, 1892, i, 970.
16. Archives of Otology, 1891, xxi, 128.
17. Transl. in Archi. of Otol., 1890, xix, 110.
18. Boston Med. and Surg. Jour., 1891, cxxiv, 50.
19. Edinburgh Med. Jour., 1887-88, xxxiii, 613.
20. Cincin. Lancet and Clinic, 1885, xv, 649.
21. Brooklyn Med. Jour., 1898, xii, 9.
22. Phila. Polyclinic, 1897, vi, 104.
23. Lancet, 1889, i, 574.
24. Atlanta Med. and Surg. Jour., 1890-91, vii, 707.
25. The Ear and its Diseases.
26. N. Y Med. Jour., October 30, 1897.
27. Lancet, 1880, ii, 653.
28. Archiv. of Otol., 1886, xv, 192.
29. Loc. cit.
30. Arch. of Otol., 1884, xiii, 156
31. Arch. of Otol., 1881, x, 315.
32. Arch. of Otol., 1897, xxvi, 400
33. Am. Jour. Ophth., 1884, i, 39.
34. Med. and Surg. Reporter, 1894, xx, 158.
35. Brit. Med. Jour., 1882, ii, 1249.
36. Med. Rec., 1880, xviii, 169.
37. Archiv. of Otol., 1880, ix, 154.
38. Peoria Med. Monthly, 1881-82, ii, 128.
39. N. Y. Med. Rec., 1885, xxvii, 403: also N. Y. Med. Jour., 1887, xlv, 513
40. Archiv. of Otol., 1890, xix, 110.
41. Trans. Am. Otol. Soc., 1889, 477.
42. Lancet, 1889, i, 574.
43. Buffalo M. and S. Jour., 1888-89, xxviii, 202.
44. Reported from Seiss' Clinic in Univ. Med. Mag., 1895, viii, 617.
45. Brooklyn Med. Jour., 1898, xii, 9.
46. International Clinics, 1894, iii, 354, and General Practitioner, 1896, ii, 11.
47. Archiv. of Otol., 1881, x, 339.
48. King's Coll. Hosp. Rep., 1894-95, ii, 261.
49. N. Y. Med. Rec., 1887, xxxi, 201.
50. N. Y. Med. Jour., 1892, lv, 72.
51. Am. Medico-Surgical Bulletin, 1896, x, 655.
52. Rep. Surg.-Gen. of the Army, 1885-86, 87.
53. Archiv. of Otol., 1881, x, 100.
54. Archiv. of Otol., 1881, x, 100.
55. N. Y. Med. Rec., 1887, xxxii, 732.
56. Kansas City Med. Rec., 1890, vii, 150.
57. Med. News, 1882, xli, 173.
58. Brit. Med. Jour., 1894, ii, 68
59. Loc. cit.
60. Med. Rec., 1880, xviii, 169.
61. Archiv. of Otol., 1892, xxi, 34.
62. Archiv. f. Phreuhk, 1889-90, xxix, 237.
63. Transl. in Archiv. of Otol., 1890, xix, 110.

MANY HAVE a history of specific disease in early life, with no symptoms after the first two or three years following the initial lesion, and then are troubled in late life.—*J. Nevins Hyde.*

THE USE OF ADRENAL SUBSTANCE IN THE TREATMENT OF ASTHMA.

BY SOLOMON SOLIS-COHEN, M.D.

Professor of Medicine and Therapeutics in the Philadelphia Polyclinic; Clinical Lecturer on Medicine, Jefferson Medical College; Physician to the Philadelphia and Rush Hospitals; Consulting Physician to the Jewish Hospital, etc.

PHILADELPHIA.

The experience I have to submit in the use of adrenal substance in this particular connection, is of but little importance, except as a link in a chain of studies.

The synthesis of disease—i. e., the manner in which syndrome groups are built up, and the reason of their association—is beginning to attract the attention of students who recognize that pathology is something more than morbid anatomy or bacteriology.

That wonderful system of compensations found throughout all Nature, the balanced action of contending forces producing mobile or stable equilibrium, and the motion that takes place in the direction of an inferior force, are not merely problems of physics, but also of biology, and of that special branch of biology which deals with the disturbances we call disease. The disruption of a planet, the aberration of a comet from its calculated orbit, may differ in magnitude from the destruction of an animal cell or the aberrant action of the heart and vessels, but essentially the same forces are at work. Provocatives in such disturbances are often forces of the environment, but sometimes the disturbing elements arise within the animal organism itself. Often the nature, and nearly always the order—for in Nature there is always order in disorder—of succession of these disturbances depends on the inherent properties of the organism attacked rather than on the attacking agent—be this microbian, chemical, or less tangible than either.

Within the human economy, a constant struggle of opposing activities—or perhaps it would be more accurate to say tendencies to action—results in orderly growth, development and function. The agents of these activities or tendencies are cells and their products. Deficiency or excess may lead directly to disorder or render order so unstable that it is easily overthrown by slight addition to the forces acting in some special direction.

We have not yet learned to realize the large part that the activities of the blood-vessels may take in determining symptomatology and lesions. A and B may both be exposed to the same storm, and the same incidence of pneumococci, yet A may escape and B suffer with lobar pneumonia. Why? Possibly, even probably, because B's vascular tone is more readily overthrown than A's, because the branches of his bronchial arteries are through permanent or temporary relations of vasomotor control, more readily paralyzed, permitting congestion to occur, and favorable culture conditions for the cocci to be established. But the same instability of vascular tone which, under certain conditions, leads to the development of pneumonia may, in other degrees and under other conditions of internal metabolism and of incidence of external forces, lead to other morbid phenomena, perhaps to Graves' disease; or will modify the symptomatology of visceral diseases or infectious fevers; or will be manifest in certain so-called idiosyncrasies to drugs or articles of diet. Thus a varied and apparently unrelated semeiology may be correlated with some structural, functional, or metabolic condition peculiar to the individual or, more frequently, to classes of men; and these peculiarities may be acquired or congenital.

On the other hand, a certain symptom-complex, or symptom-complex closely similar, may arise in different individuals, not only from different causes but even by apparently opposed mechanisms. Thus we can distinguish between two varieties of hemicrania, the one due to vascular spasm—anemic migraine—the other to vascular paresis—congestive migraine; the syndrome accordingly being relieved by nitrites and aggravated by adrenal substance, if spasmodic; or aggravated by nitrites and relieved by adrenal substance, if paretic.

Similarly I look on asthma, not as a definite nosologic entity, but as a morbid condition symptomatic in its nature and associated with various and varying pathologic processes and physical states. Every form of dyspnea, however, can not properly be called asthmatic, even those forms that by common consent have come to be designated as cardiac asthma and renal asthma; and while the former is sometimes susceptible of relief through the action of adrenal substance on the heart and vessels, I shall not in this paper refer to such cases.

Without restricting the term asthma, as is the tendency of most modern authors, to the typical paroxysm of dyspnea, arising suddenly and terminating with equal suddenness, it is, nevertheless, distinctly a paroxysmal disorder, arising independently of gross lesions of the circulatory, respiratory or excretory systems; although it may be associated with any or all of these, and be the more readily provoked through such association.

The disputes over its pathology are probably due to onesided studies of one or another variety. Basing my opinion purely on clinical studies, as the question could scarcely be decided post-mortem, I have no doubt that in certain cases of asthma the immediate mechanism of the paroxysm is bronchial spasm, not only muscular but also frequently vascular; though perhaps in many cases of vascular spasm the pulmonary rather than the bronchial vessels are affected. I have equally no doubt that in other cases the immediate mechanism of the paroxysm is dependent on irregular turgescence of the bronchial mucosa; and equally no doubt that in some cases turgescence of the bronchial mucosa is preceded, accompanied or succeeded by inflammatory or subinflammatory conditions, associated with exudation into the bronchioles. Again we find, as an underlying diathesis in some patients, gout or, if that term be preferred, lithemia; in others rheumatism. In some patients, but by no means all, nasal abnormities exist. They may be causative or merely coincident; the most intractable case I have had was in a man from whom I removed a large nasal polyp and in whom, although the relief to nasal breathing was marked, the asthma persisted. In other cases abnormities of the upper pharynx, of the lower pharynx, of the tongue, of the thyroid gland are found. In one case, referred to me by Dr. Weir Mitchell, there was tonic spasm of one vocal band apparently due to pressure by a hardened right apex upon the recurrent laryngeal nerve. In this case several nasal polypi had been removed by the late Dr. Harrison Allen without relief to the tendency to asthmatic paroxysms. Many patients subject to asthma are highly neurotic and some have hay-fever; the asthma occurring both in association with this latter syndrome and during times of freedom from nasal and ocular symptoms. In other cases there is associated with the tendency to paroxysmal dyspnea, a paroxysmal albuminuria; the latter occurring both during the period of respiratory distress and during the intervals of freedom, although in some instances they may seem to alternate.

In this outline I have not attempted to exhaust the list of associations, but merely to indicate the great variety of the conditions under which asthma may be manifested as one of a group of symptoms, or even as the single prominent symptom of a general disorder.

Adrenal substance is not applicable to the treatment of all asthmatic patients or to all varieties of asthma. It is applicable in the treatment of some of those in whom this affection is associated with other manifestations of what I have elsewhere termed vasomotor ataxia,[1] of the relaxing variety. Under this head I include, among others, patients who are subject to urticaria or in whom factitious urticaria may be readily produced; those who are, vascularly, extremely sensitive to slight changes in weather and climate, or who exhibit peculiar idiosyncrasies in this respect, as in their reaction to drugs; those whose cardiovascular balance is easily disturbed by emotion or by digestive disorder or other slight intoxication; some hay-fever subjects; persons subject to congestive hemicrania; and those who show signs of renal leakage, either by intermittent albuminuria, or by the occasional presence of red blood-cells in the urine, without decided hematuria and without the persistent presence of tube casts; in whom, therefore, we are dealing with what may be termed functional rather than organic renal lesion. By the apparent paradox of "functional lesion," I do not mean to imply the absence of structural change—on the contrary, to indicate that there is a distinct structural—or perhaps it would be better to say "compositional"—abnormity, not sufficiently gross to be detected by our present methods of research. But this abnormity in the great class of patients herewith included is congenital and is thus, as it were, normal to the individual.

Whether it be metabolic or of other nature in ultimate analysis is a subject too recondite for present discussion. Biochemistry and biophysics are neither sufficiently advanced to answer. Clinically, however, the fault is found in the vascular taxis.

Believing that in such cases the immediate mechanism of the obstruction to respiration, manifested by the asthmatic paroxysm, is an irregular swelling of the bronchial mucosa, allied to the condition of circumscript edema—angioneurotic edema—or urticaria, and that by increasing the vascular tone through the administration of that substance which Nature seems to have designed for its maintenance, we might prevent such attacks, I have, during the last few years, used adrenal substance in the treatment of such patients. It has in but one dubious instance served to cut short a paroxysm, though it has occasionally mitigated distress in greater or less degree. It has, however, been useful in averting the recurrence of paroxysms and in finally bringing about a state of freedom from fear of their recurrence. I, therefore, speak of the use of adrenal substance not as "a treatment for asthma" but as a measure "applicable in the treatment of certain cases" of that affection. Physicians accustomed to exactitude in language will readily discern the difference between these methods of statement.

As illustrative both of the usefulness and of the limits of usefulness of this agent in the management of certain cases of asthma, the following case may be given in outline:

Miss X. Y. Z., aged 22 years, was first seen in consultation, at Atlantic City, in June, 1897. She was then confined to bed with constant dyspnea, aggravated in paroxysms, the paroxysms occurring at night and relieved after an hour or two of orthopnea by critical expectoration of large quantities of a thin watery fluid. During the day this expectoration would continue in less degree, but would cease during sleep. Sleep would be broken in on by the asthmatic paroxysm and return with the re-establishment of the discharge. Attacks of excessive rapidity of the heart and paroxysms of distressing sweating were also complained of. It was stated that this condition had followed an attack of influenza which occurred during the preceding February, since which time the patient had not been out of bed. She was feeble, nervous and apparently anemic, but not hysterical. The temperature ranged between 99 and 100.5 F., irregularly. Physical examination gave hyperresonance of the upper portion of the right lung; normal resonance elsewhere, and diffuse mucous, sonorous and sibilant râles in all portions of the chest. The heart was feeble and rapid, rate 96. No murmur was heard. Precordial dulness was perhaps slightly enlarged. This was during a period of comparative quiescence, the respirations being shallow and slightly accelerated to 24 to the minute, and considerable subjective distress being complained of, but no asthmatic paroxysm being manifested. Dermographism was readily produced; the nails showed typical red crescents and were of a peculiar lemon tint not due to artificial coloring. The father of the patient was said to have died of asthma and tuberculosis, following pneumonia. At that time, eight years previously, the patient had suffered similarly to the present attack but not for so long a period. Examination of the patient's sputum for tubercle bacilli had not been made during either attack. The urine was free from albumin.

Apart from diet, the treatment tentatively advised was the injection of very small doses of hyoscin hydrobromate with morphin and strychnin at night, for at most three consecutive nights, and during the day the use of a mixture containing ammonium bromid. Iron preparations and syrup of hydriodic acid had been used without much good effect. Slight relief followed. The patient was brought to Philadelphia in July, where she was placed under the care of my friend Dr. Eshner, with whom I again saw her in consultation. Examination of the urine now showed the absence of albumin; examination of the sputum showed the absence of tubercle bacilli, and examination of the blood showed reduction of red corpuscles to about 70 per cent. and hemoglobin to about 60 per cent. of normal.

The treatment proved to be most difficult. Apart from hygienic and general tonic treatment, many approved remedies were used without benefit. Some of the drugs that gave greater or less relief may be mentioned. Atropin checked sweating and expectoration temporarily, but the symptoms recurred in greater degree on its withdrawal. Picrotoxin was employed on the theory that the paroxysms were due to vasomotor paresis with turgescence of the bronchial mucosa. This gave some relief, but recovery seemed still distant. Thymus gland substance gave better results, but asthmatic paroxysms still recurred. Albumin appeared in the urine. It was then determined to use adrenal substance. Burroughs & Wellcome's tablets, 5 grains each, were prescribed once daily, then twice, then three times daily, and finally the patient for a short time took 90 grains daily. A striking improvement shortly became manifest. The constant dyspnea first disappeared, then the paroxysmal nocturnal attacks became less frequent and less severe. Recovery was not rapid but was continuous.

In October the patient was able to go out of doors, and inhalations of compressed air with exhalations into rarefied air were then added to the treatment for its effect as a method of neuromuscular gymnastics, as also for direct effect on the blood-vessels at fault. The albuminuria noted was intermittent and disappeared after ten months. Since this time the patient has had no recurrence of symptoms similar to those of the original attack: though being allowed to go without medicine on account of the improved condition, there is at times recurrence of albuminuria, which quickly disappears under treatment with adrenal extract; and once there was a brief attack of dyspnea with asthmatic exacerbation, which likewise yielded quickly to treatment. While it is obvious that dependence in this case was not placed alone on the adrenal substance, yet its marked effect in heightening the tone of the blood-vessels, in diminishing and finally checking the peculiar expectoration, and its similar effect on the night sweats, favor the belief that it was an active agent in the control of the asthmatic symptoms. The tachycardial paroxysms had ceased before it was administered—under the influence of rest, medication, and allaying of fear.

---

[1] Am. Jour. Med. Sci., February, 1894.

In other patients the result has been about the same as that already narrated. Hyoscin, morphin and strychnin have been given for immediate control of paroxysms, sometimes aspidospermin or other appropriate remedy for the quick relief of dyspnea, and adrenal extract for control of the underlying condition.

It would be wearisome, as well as useless, to detail histories. Apart from so-called hay-asthma—which is another story and belongs to another speaker—success has been reached only in those cases, about twelve in the course of a little more than two years, in which from the crescentic markings on the nails, from the tendency of the hands to excessive color changes, or to sweating on slight temperature variations, from the facility with which dermographism or factitious urticaria could be produced, from the enlargement of the thyroid gland, from the tendency to cardiac palpitation, or even tachycardia, or from the occurrence of other vasomotor crises, such as migraine or angioneurotic edema or nervous vomiting, or if necessary from the *experimentum crucis* of increased distress on inhalation of amyl nitrite—one could recognize the tendency of the subject to loss of control of vascular tone on slight provocation. In one case the paroxysm of asthma—or perhaps of obstructive dyspnea—was preceded by angioneurotic swelling of the tongue, and when this was reduced by the prompt local application of suprarenal extract, the paroxysm was averted or modified in severity. It was interesting to note that in this case the swelling of the tongue was not always followed by dyspnea, but sometimes by a gastric crisis, of pain, or less frequently, vomiting of a thin, tasteless fluid. I never saw these attacks, and, therefore, rely entirely on the description of the patient and her physician. The circumscribed swelling of the tongue I saw in my office, but it was promptly reduced by suprarenal substance locally, and no other manifestation followed.

I believe that we have in this substance a decided addition to therapeutic resources: quite active when used locally, and hence to be remembered in the prompt treatment of urticaria or edema of the upper air-passages—and less active, but still definitely useful by internal administration in controlling urticaria or circumscript edema or similar condition affecting the bronchial mucosa.

It is not a specific for asthma. It is without good influence, perhaps capable of bad influence, on cases that are really spasmodic; that is, due to contraction of the bronchial muscles. But it is of definite use in that perhaps smaller number of cases of asthma in which, as I have indicated, the paroxysm is but one other manifestation of a congenital fault of structure or of metabolism, [illegible] the system, and thus permitting the cardiovascular balance, and especially the tonicity of the blood-vessels, to be readily overturned by exciting causes that would have but slight, if any, effect on other individuals. In such cases a more or less continuous administration of adrenal substance, in sufficient quantity to maintain the vascular tone, will act as a preventive, enabling the reactive forces of the individual to combat more successfully the toxins of internal and external origin, the emotional, meteorologic, thermal, and climatic influences, and other sources of disturbance that ordinarily provoke the paroxysm.

As to its dosage, the rule is that of Professor Ellerslie Wallace for bleeding in puerperal eclampsia—"Enough." There is great difference in cases and in individuals. Beginning with small doses frequently repeated, e. g., 1 grain every hour or every two hours, or with a moderate dose, say 5 grains, once or twice daily, we learn the tolerance of the individual, the tractability or intractability of the symptoms, and regulate accordingly. I have given as few as 3 and as many as 90 grains of the desiccated gland substance in the twenty-four hours. Five or 10 grains every second or third hour during waking hours is a fair dose. In some cases, however, the unnecessary animal substances retained in the preparation give rise to diarrhea with offensive discharges. If we could have the active agent alone our therapy would be much more definite.

What the active agent is and how much or how little of that active agent is absorbed, I must leave to laboratory students to determine. Clinically I have watched closely and critically enough to satisfy myself that neither the susceptibility of patients to suggestion, nor the activity of the observer's imagination are sufficient in themselves to account for the whole of the results.

ETIOLOGIC STUDIES ON NEUROSES OF PERIPHERAL ORIGIN.*

BY H. GRADLE, M.D.
CHICAGO.

Medical opinion concerning the frequency and importance of the so-called reflex neuroses has fluctuated considerably within past years. The claims made by American ophthalmologists regarding the effects of eye strain, the startling results announced by Hack and his followers concerning the cure of reflexes of intranasal origin and to some extent, too, the views of gynecologists as regards the etiologic rôle of pelvic anomalies in the production of nervous symptoms have made "reflex neuroses" a topic of the day. But criticism is beginning to show how and wherein some of the enthusiasts have erred, and perhaps an undue skepticism is beginning to prevail. One of our members has not inaptly characterized the trend of medical opinion as "the passing of the reflex." Yet by properly defining the term "neuroses of peripheral origin" it can be made to include a great deal of human suffering, which may be relieved by the knowledge of its etiology.

I do not consider the name "reflex neurosis" an appropriate one, since the definition of "reflex" in physiology implies the motor or centrifugal response of a nerve-center to an impulse coming through a sensory nerve.

Hence, most of the neuroses of peripheral origin do not come under this definition. Even when a motor phenomenon does occur, it depends on the influence which the peripheral stimulus exerts on the excitability of the nerve-center, and is generally not a mere exaggeration of a physiologic reflex.

---

*Read before the Chicago Neurological Society, Jan. 18, 1900.

The peripheral origin of a neurosis in a given case may be suggested by the coexistence of a peripheral lesion or anomaly likely to cause it, especially when a clear history of aggravation can be obtained under circumstances which can intensify the peripheral stimulus, for instance, when a headache is brought on by use of the eyes or when an attack of asthma follows nasal irritation. But the absolute proof can only be furnished by the prompt cessation of the neurosis after elimination of the peripheral influence. If a relapse occurs, as it sometimes does in asthma of nasal origin, and it can be shown that the peripheral condition had returned because of its incomplete removal, the etiologic relationship is only more firmly established.

As a basis for further discussion I shall hence refer only to such instances in which this convincing proof exists, either in cases of my own observation or in well-recorded reports in literature. The following are well substantiated examples of neuroses of peripheral origin.

Errors of refraction and accommodation may lead to headache, a feeling of pressure in the head, less frequently to vertigo, and even nausea. Astigmatism may bring on periodic attacks of migraine. Suppuration of the nasal passages or accessory sinuses and also intranasal tumors—polypi—may cause headaches, either constant or periodic neuralgic pains, oppression in the head, asthmatic attacks and circulatory and cardiac disturbances.

In some instances these neuroses are started from the nasal lining even in the absence of any other lesion except enlargement and liability to turgescence of the submucous cavernous tissue. Pharyngeal disease may cause cough and laryngeal spasms. Dental disease may induce headache and neuralgia. Outside of my own sphere of observation, but scarcely subject to doubt, is the backache of pelvic disorders.

While the actuality of all these instances can not but be admitted even by skeptics on the subject of "reflex neuroses," the term "neuroses" may be objected to as improper. But we understand by that term any nervous disturbance not dependent on demonstrable lesions in the nervous system and not the normal consequence or symptom of disease of a peripheral organ, and hence the term "neurosis" is proper in the present place.

Much has been described under the head of reflex neuroses that can be severely criticised. Epileptoid convulsions have been reported as of "reflex" origin by many authors. Some of their observations are undoubtedly correct, but not all and not even many of them. After all, the number of cases of spasms permanently stopped by the excision of peripheral cicatrices is very small, although such instances have occurred. Similarly there are a few reports in which years have elapsed without the recurrence of epileptoid fits after the fitting of proper glasses or the removal of nasal polypi, but they can be counted on the fingers. Personally I have seen petit mal with laryngeal spasm in an infant cease promptly after a duration of many weeks, on curing a pharyngitis by nitrate of silver application. As this occurred twenty years ago, and the patient—now a young man—has never had another attack, I consider this a well-established instance of epilepsy of peripheral origin —but it is the only case I have ever observed.

Similarly we must admit the symptom-group of exophthalmic goiter as a possible but excessively rare neurosis of peripheral origin. There are five well-observed instances on record of total disappearance of all symptoms of Graves' disease after intranasal treatment, while in one other the symptoms of this disease came on immediately after a nasal cauterization.

Chorea, too, has often been described as a neurosis of ocular origin. But I can not say that I have seen any reports which to me seem convincing proof of this assertion. I have never seen chorea influenced by the optic correction of an ocular defect, although I have given glasses for good reasons to many such patients at an early period of the affection. I suspect, however, that clonic blepharospasm, really a chorea or habit spasm of the eyelids and adjoining muscles, may be started by disease of the conjunctiva. I have seen it relatively often in connection with chronic follicular conjunctivitis, and have often found it disappearing gradually after treating the lids. But I have always advised other measures as well, and besides, neither the cure of the conjunctival lesion nor the cessation of the twitching could be obtained with sufficient promptness to permit any absolutely positive conclusion. Jacobi's statement regarding the relation of facial chorea to nasal and pharyngeal disease I am also inclined to admit as plausible, but can not consider it definitely proved either by his nor by my own confirmatory observations.

Finally, I wish to dispose of the often reiterated claim that neurasthenia in a given case was cured by spectacles or some operation, be it on the eye muscles or the perineum or uterus, and that it was hence of "reflex" origin. There can be no doubt that a neurasthenic patient may be made comfortable by removing any peripheral source of annoyance, but that is not a cure of his neurasthenia. The intrinsic weakness of the nervous system, which we consider the basis of neurasthenia, is not removed in such a case. One of its manifestations is merely suppressed, perhaps the only one at the time, and the patient is satisfied. But the nervous system is still in the same condition as it was before, ready again to break down, so to speak, under a condition which the normal subject tolerates, although the chance for an ultimate recovery, if that be possible at all, is, of course, improved by eliminating all curable pains. It will be my effort throughout the further part of this paper to show that peripheral lesions are not the cause of neurasthenia, but lead to "reflex" neuroses only in those who are in a certain sense neurasthenic for other reasons.

For the study of the various factors which contribute to the occurrence of neuroses of peripheral origin, patients with optic anomalies furnish the best material since the degree of the peripheral "cause" can be stated numerically and since spectacles furnish such a convenient method of promptly or, if desired, temporarily eliminating the peripheral starting point.

The case-book of every oculist can supply the records of the most variable amount and extent of neuroses of the most variable duration due to eye strain and promptly stopped by proper glasses. But, on the other hand, school and military statistics show how very prevalent are the same refractive errors, without causing nervous symptoms. Indeed, every individual, except a myope, will undergo eye strain when he attempts to use his eyes at short range after age has curtailed his power of accommodation. Sooner or latter astigmatism, hyperopia and presbyopia cause eye strain in every individual afflicted, manifesting itself by blurring, inability to read or work and a feeling of painful fatigue in the eyes on persisting in their use. There is thus a minimum or "normal" amount of asthenopia inseparably connected with every degree of optic error. But on the other hand, among the patients who call on us many present an exaggerated amount of asthenopic discomfort out of proportion to the causative strain of the ciliary muscle. Observation also shows that a certain degree of hyperopia or astigmatism—.75 or even up to 1.5 D. variable with age—may exist without causing any annoyance whatsoever to vigorous subjects, while many of our patients complain bitterly in consequence of optic errors of even less degree. But of the cases of "normal" eye strain oculists see but a very small proportion; these people mostly go to the spectacle dealer and buy glasses which give them satisfaction. Hence, it seems as if some ophthalmic writers, especially those of the Philadelphia school, were familiar with only those manifestations which may be termed exaggerated asthenopia.

To an unbiased observer, it must be apparent that if one set of subjects tolerate minor optic defects without distress, or complain only of discomfort in the eye from higher degree of ametropia, while another set of patients get distressing nervous symptoms from the same peripheral disturbances, there must be other factors besides the eye strain involved in the latter case. On comparing these two classes of people as regards their general health and physical condition, it is apparent that the former represent on the whole the healthy type, while the latter are sufferers in more ways than one. The neurologist would recognize among them a large proportion of neurasthenics, or at least subjects predisposed to neurotic troubles. By closer analysis it can be learned that but very few of those who suffer to an unproportionate extent from an existing optic anomaly have not been subject to influences which reduce the stability of the nervous system.

Prominent among the pernicious influences is heredity. Whenever I had opportunity to enter into the family history I have found the neuropathic taint existing in a fair proportion of instances. This I have also found true very often in neuroses of nasal origin. It is not, however, the history of the more serious nervous diseases which we obtain, but rather the evidence of "nervousness" in its less grave manifestations. Paternal alcoholism has not appeared to any noticeable extent in my private records.

With or without the hereditary influences additional factors can be elicited in most cases. One—which has not received the attention it deserves—is the malnutrition of bottle-fed babes. Repeatedly, when a single child from an otherwise healthy family was brought to me on account of exaggerated eye strain, I learned that it had not been properly nourished during its first year. It seems that malnutrition during babyhood may sometimes leave a permanent influence on the nervous system.

During school time, as well as later in business work, want of out-door exercise plays an important rôle in predisposing to neuroses. It is striking how few are the instances, at least after school age, in which neuroses of ocular origin occur in persons of active out-door habits or those engaged in manual labor, and equally striking how often the subjects of neuroses admit close confinement, although exceptions do occur. On the strength of my extensive observation, I must insist that the breaking down of the nervous system is much less due to the amount of eye work done, than to the want of out-door employment of the muscles. It has for years been my habit to insist on proper hygiene in this respect, and many a time have I been rewarded by the recovery of the patient, i. e., his ability—after a time—to continue his eye work without glasses and without suffering.

The liability to neuroses of peripheral origin is augmented by all influences depressing the nervous system. In many histories the coincidence of pregnancy, disturbed sleep, mental anxiety and grief, with the occurrence of nervous disturbances of peripheral origin is quite apparent. Likewise convalescence, for instance from typhoid fever, influenza or in children from measles, is not a rare factor.

An important and frequent condition in neuroses of peripheral origin is anemia. It is probably partly through the production of anemia that some of the pernicious influences just detailed act as etiologic factors. The rôle played by anemia, which its frequent coexistence suggests, can often be demonstrated tangibly by the cure of the neuroses under the use of iron or the employment of hygienic measures which remove the anemia. In suitable cases the most satisfactory proof can thus be furnished that the peripheral stimulus leads to nervous disturbances only when the nervous system has not its normal nutrition.

Toxic influences, which we can not as yet define, are probably, too, of considerable importance. The most distressing instances of exaggerated asthenopia are sometimes observed in subjects with deranged digestion. In some of them correcting glasses do really remove all manifestations of eye strain and headaches dependent thereon. But often optic correction gives but partial relief, and full comfort can only be obtained after the successful management of the stomach and intestinal disturbances. Much can be learned when cases of this type can be observed from the start. I have observed in such instances, of which I have accumulated at least twenty-five records, if not more, that asthenopic complaints, either localized in the eyes alone, or exaggerated in the form of headache, may begin suddenly during a period of intestinal derangement manifested by furred tongue—disturbed appetite and more or less constipation. Most of these patients had neither felt any eye strain nor suffered from headache previously. The dependence of the—apparently—ocular neurosis on the intestinal disturbance was definitely proved in a number of cases by total recovery after dietetic and medicinal treatment directed against the digestive trouble. As the discomfort in the eyes and head was evidently aggravated by eye-use, rest of the eyes was also ordered. The important lesson learned was that while the subjective experience of these patients suggested an ocular origin of the neurosis no optic error worth correcting could be found in many of these instances of asthenopia of acute onset. What becomes of these neuroses if they are not properly stopped by the recognition and treatment of their intestinal origin? From many observations on other patients seen during later periods I conclude that this asthenopia will generally *continue as long as the stomach derangement lasts, and* that occasionally it will remain even after the digestive disturbance has gradually disappeared spontaneously. Undoubtedly this persistence is due partly to psychic causes and, indeed, yields at times only to psychic or suggestive influences, if at all. I have no doubt that many of the alleged successes attributed to weak glasses —0.5 D. and less—occur in cases of this kind. Observation continued during a number of years has only confirmed my often expressed doubts regarding the direct utility of glasses of such low degree that their selection is a matter of uncertainty on account of their scarcely appreciable optic action.

A psychic factor in the production of ocular neuroses is sometimes observed, too, in another variety of cases. Some patients with medium or low degrees of optic error, formerly tolerated without discomfort, date their asthenopia to the time of a conjunctivitis which may or may not be still present at the time of examination. After this is cured the asthenopia still persists and does not entirely yield to appropriate glasses, if such are needed at all. Here, too, an unfortunate rôle is played by the expectant attention which has occupied itself with and intensified the discomfort experienced while the eyes were really sensitive. These cases are also rebellious and yield only to psychic influences. We must recognize that neuroses due to a temporary physical cause may persist after the cessation of the latter on account of psychic reasons. We are treading here on the borderland between the domain of "reflex" neuroses and pure hysteria—usually monosymptomatic hysteria. But, on the other hand, the pure neuroses of peripheral origin, those which are promptly stopped by the elimination of the peripheral influence, have nothing to do with hysteria, even if they should occur in a patient who happens to be hysterical.

It is well to admit that in some instances of neuroses of peripheral origin apparently no deviation from perfect health, except the peripheral anomaly, can be found. It is more logical, however, to concede that we are unable to completely analyze such an apparent exception than to conclude that a peripheral influence which does not affect the nervous system in normal subjects should do so in a given case if it were not for the concurrence of other factors which escape our analysis. Besides, it is an open question whether hypermetropia and astigmatism of more than a minimal degree are not by themselves stigmata of at least imperfect development, if not of degeneration, inasmuch as these optic anomalies have not been observed in the examination of uncivilized races.

What has been said regarding the etiology of neuroses of ocular origin applies more or less to all "reflex" neuroses. In the case of nasal neuroses I wish to emphasize, perhaps even more, the importance of intestinal disturbances. Quite commonly these patients have constipation with flatulency. It can often be learned from self-observing patients that their nasal neurosis, for instance, asthma, is intensified whenever their intestinal disturbance becomes more manifest, and that on the contrary attention to diet and to the state of the bowels relieves their nasal symptoms or any nervous disturbances produced thereby.

In the case of some of the neuroses of nasal origin we must also take into account another factor, which, by itself, may undermine health, viz.: the existence of suppuration. Some of these patients evidently suffer from systemic injury due to the pyogenic infection apart from the "reflex" influence on the nervous system. Indeed, the history sometimes suggests that the nasal irritation caused nervous symptoms only after long-continued nasal suppuration helped to create a predisposition.

The degree of intensity of the peripheral disturbance provoking the neurosis varies considerably in different patients. I need but repeat that many healthy young people can tolerate a hyperopia of perhaps 2 D. or an astigmatism of 1.5 D., without any discomfort, while most distressing nervous symptoms are sometimes relieved by glasses of the strength of .75 D. The readiness with which the nervous system reacts by morbid symptoms to such a peripheral anomaly is an index of its instability. There are all possible degrees of "nervousness" without a sharp line dividing this condition from perfect health.

It is self-evident that in a given case the occurrence of a neurosis may depend on any intensification of the peripheral cause as well as any change in the condition of the nervous system. An optic anomaly which had hitherto produced only "normal" and local asthenopia may cause diffuse nervous symptoms when the patient taxes his eyes by continued close work. Similarly a nasal condition, which up to a given time had not led to any neurosis, may result in nervous disturbances when aggravated by an acute inflammatory condition or intensified by unfavorable climatic influences.

Due attention to the general health and general medical history of patients with neuroses of peripheral origin as well as the study of variations in the peripheral condition gives us the clue to the fluctuations of their symptoms. It is only by treating them from the standpoint of the physician and not merely through the instrumentarium of the specialist that we can fulfill our full duty toward these sufferers.

100 State Street.

HAIR AND ITS ANOMALIES.*

BY HENRY ALFRED ROBBINS, M.D.

WASHINGTON, D.C.

The poets and sculptors of Ancient Greece have left in verse and marble their admiration of long hair. The Hebrews also looked upon hair as a great ornament, and their women gloried in their luxuriant tresses, bedecked with gold and precious stones (Isaiah iii). The men usually kept their hair short, but there were notable exceptions, as with Absalom and Sampson. With the latter it was accompanied with superhuman strength, and when Delilah, during his sleep, cut off his flowing locks, his strength was gone: "Howbeit the hair of his head begun to grow again, after he was shaven." "But the Philistines took him and put out his eyes and brought him down to Gaza, and bound him with fetters of brass, and he did grind in the prison house'" (Judges xvi). When his hair had grown again his enemies sent for him that "he may make us sport." "And Samson took hold of the two middle pillars upon which the house stood, and on which it was borne up, of the one with his right hand, and of the other with his left." "And Samson said, 'Let me die with the Philistines.' And he bowed himself with all his might, and the house fell upon the lords, and upon all the people that were therein. So the dead which he slew at his death were more than they which he slew in his life." Thus Samson added greatly to the death-rate of the Philistines, but he was crushed to death himself.

The Hebrews of the Old Testament particularly deprecated the loss of long hair, but on one occasion, their mocking of a prophet resulted in their being eaten up by she-bears, when they cried out to Elisha, "Go up thou bald head." Fortunately, as civilization has advanced, bears have been almost exterminated.

The priests of ancient times wore long hair, until Pope Anicetus (A. D. 155) compelled them to wear it short. Long and flowing hair was so universally esteemed that the tonsure was regarded as an act of mortification. They declaimed against the long hair of the laity most bitterly. Anselm, Archbishop of Canterbury, pronounced a sentence of excommunication against all who wore long hair. Serlo, a Norman bishop, acquired great honor by a sermon which he preached before Henry I (A. D. 1104) against wearing long and curled hair, by which the king and all his courtiers were so deeply affected that they consented to resign their flowing ringlets, of which they had been so vain. The prudent prelate gave them no time to change their minds, but immediately pulled a pair of shears out of his sleeve, and performed the ablation with his own hands. (Encyclopedia Britannica.)

---

*Read before the Society of Microscopists of the District of Columbia, Jan. 9, 1900.

Chemically, according to Mulder and Donders, hair is composed of: carbon, 50.65; hydrogen, 6.36; nitrogen, 17.14; oxygen, 20.85; sulphur, 5. The same products are found in the nails and epidermis, and in the hoof of a horse, the horn of a cow, and in whalebone and tortoise shell. They differ slightly in the quantity of organic matter they contain, but the difference does not vary much beyond 1 per cent. Hair yields from 54 to 1.85 per cent. of ash, containing among other ingredients peroxid of iron and a little silica. Professor Frey of Zurich speaks of hair as being the highest variety of epidermoidal tissue: "An extreme complication of structure welcomes us here all at once."

With the exception of the palms of the hands and the soles of the feet, hair is found on every part of the surface of the body. Being appendages of the skin, a description of hair necessitates a study of all the tissues therein contained.

The hair follicle, according to Tilbury Fox, may be regarded as a depression of the skin, the papilla at its blind end representing one of the ordinary papillæ of the skin; as Frey expresses it, an involution of the corium, and frequently of the subcutaneous cellular tissue. This involution shows externally, longitudinally, then transversely arranged connective tissue, and internally, a hyaline boundary layer. At the bottom it puts forward as a vascular papilla. It is the formative and nutritive organ of the whole. Hair, being modifications of the epidermis, receives the same vascular and nervous supply, and owes its glossy appearance to the sebaceous glands which open near its free extremity.

Dr. L. Duncan Bulkley[1] says: "At the deepest portion of the hair follicle, or cavity in which the hair rests, there is a certain anatomical structure which is of the greatest importance in reference to the growth and vitality of the hair, namely, the *hair papilla.* This is, of course, quite distinct from the papilla which we have seen to cover the surface of the corium of true skin; it is situated deep in the tissues, at the bottom of each hair follicle, and projects into a small cavity at the lower end of the hair. This little hair papilla, which is only 1-15 of a line, or one hundred and eightieth of an inch long, is of vital importance to the growth of the hair, there being a minute blood-vessel in its interior, and it is believed that the reproduction of the hair, after it is lost from any reason, takes place from this papilla. Conversely, is it also true that as long as this papilla is intact, and in a healthy state, the hair will be reproduced, even though extracted artificially. Thus, 'plucking the hair out by the root' does not destroy the life of the follicle; only the hair is removed, the papilla from which it regrows remains."

As a rule, only the hair of the scalp, and certain other parts of the body, is coarse and long. The soft downy hairs called lunago, on the cheeks of an attractive girl of 16 years have been likened to the down of a peach.

It appears to be the main object in life for men to hold on to the hair they have, but occasionally we come across men and women who possess more wealth of hair than is desirable. This condition is known as hirsuties or hypertrichosis. My first knowledge of this condition dates back to my childhood days, when at a New England boarding-school I committed to memory, by compulsion, the book of Genesis, where you will find in chapter xxv the report of the twin delivery of Esau and Jacob: "And the first came out red, all over like a hairy garment; and they called his name Esau." Then came a time when the hairy man became a great hunter, and like those of modern days suffered from starvation, and he sold his birthright to his twin brother for a mess of red pottage. Finally, the sightless old Isaac exclaimed: "The voice is Jacob's voice, but the hands are the hands of Esau."

I will never forget the bearded woman who was on exhibition many years ago. She was of sufficient height to have belonged to the famous giant regiment of Frederick the Great. Her beard was magnificent, and showed to great advantage on her snow-white, depilated bosom. Like the ballroom belle, she thought that "beauty unadorned, was adored the most." Years after I had gazed on this freak of Nature, I met in Brunswick, Germany, Mr. Greenwood, who was the American Consul there. In former years he was business manager of P. T. Barnum. Consul Greenwood told me that the bearded woman caused great excitement, and grave doubts as to the sex of this individual existed. Finally, Dr. Valentine Mott and other eminent surgeons made a physical examination, and they declared that she really belonged to the gentler sex. This was fully and satisfactorily proven, as, shortly after, she gave birth to a son, who, like Esau, was "all over like a hairy garment."

Dr. M. Bourneville[2] states that he was recently consulted by a young girl for an ordinary affection, and that on seeing her he was struck with the following singular anomaly; the eyebrow and the eyelashes of the right eye were thick and black, while the inner half of the left eyebrow, and that of the eyelashes, were entirely blond. The outer half of the left eyebrow was black, although up to the age of 6 years the entire eyebrow had been blond. The left eye and the palpebral opening were somewhat smaller than the corresponding organs of the right side. The hair was black over the entire front part of the head, but on the right side of the occipital region it was black, sprinkled with a few blond locks, and on the left side it was half black and half blond. The patient assured the author that the hair on the rest of her body was black.

Malcolm Morris, F.R.C.S., in speaking of hair turning suddenly grey through extreme terror, says the evidence on which these cases are reported is not always satisfactory, and refers to Dr. Austin Flint, a distinguished American physiologist and physician, and quotes the following statement of Dr. Flint: "In examining the literature of this subject, it is difficult to find in the older works well-authenticated cases of these sudden changes, and most of those that are quoted are taken upon the loose authority of persons evidently not in the habit of making scientific observations. It is not necessary, therefore, to quote the instances of sudden blanching of the hair recounted by the ancient writers, nor those well-known cases of later date so often detailed in scientific works, such as that of Marie Antoinette or Sir Thomas More; and it seems proper to exclude also cases in which blanching of the hair has been observed only by friends or relatives, for in most of them the statements with regard to time are conflicting and unsatisfactory."

An important case was reported in a medical journal, by Dr. Landois in 1866. In this case the blanching occurred in a single night, while the patient was under the daily observation of the physician. When examined microscopically, the white hairs were found to contain air globules, but there was no loss of pigment. It was in consequence of the presence of the air globules that the hairs appeared white.

Dr. Parry[3] gives the following instance of hair turning white from fright. On Feb. 19, 1859, the command of General Franks, operating in the southern part of the kingdom of Oude, had an engagement with a body of rebels. Several of the enemy were taken prisoners. One of them, a Sepoy, was led before the authorities to be questioned. "I then had occasion," said Parry, "to observe in this man the events that I propose to relate. The prisoner, deprived of his uniform and entirely nude, saw himself surrounded by soldiers. He then began to tremble violently, terror and despair were depicted on his face, and, though he responded to the questions addressed to him, he seemed actually stupefied by fear. Then under our very eyes and in the space of scarcely half an hour, his hair, which we had seen was a brillant black, turned grey uniformly over the whole head."

Dr. P. H. Pye-Smith, of Guy's Hospital, writes of canities as follows: "General blanching of the hair is a well known senile change. But, like baldness, it often occurs in early adult life, especially when the hair is very dark. Besides losing its natural pigment, and so acquiring a dull, yellowish, "milk-white" appearance, the hair is apt to become dry and admit air-bubbles, which increase its refractive power and produce the glistening steel-gray or "silvery" aspect. . . . Bichat and Alibert record cases which they actually saw, and Brown-Séquard has seen rapid blanching in his own beard (*Archiv de Phys.*, 1869, page 442). A gray patch sometimes follows neuralgia."

Dr. Laycock evidently witnessed the instance of the Sepoy just referred to, who was seen to turn gray in half an hour, and reported it in the *Med. Times and Gaz.*, in 1862. A young man once consulted Dr. Pye-Smith for some slight ailment, who had perfectly white hair. "In answer to inquiry he stated that a few years before he had fallen asleep after a debauch, and on waking in a cold room in the morning found that his hair had turned white. The objection that his beard was brown was answered by the explanation that when the change of color occurred it had not yet grown. This sudden change is probably due to development of air-bubbles in the shaft of the hair."

Dr. Schmitt[4] of Frankfort, reports a case of sudden turning of the hair to gray. The patient was a laborer, 36 years of age, who at the time was suffering from some affection of the neck. His hair showed two white patches, one in the middle line of the head, the other over the right ear. Eight years previously he had had a severe mental shock while on a railroad journey, and it was noted by his friends and relatives that these patches appeared almost immediately after. The possibility of its having been a congenital or gradually acquired defect covered by hair dye, as has frequently been shown, seemed remote.

Before the Academy of Medicine, in Ireland, on March 24, 1883, Dr. Banks[5] referred to a case which had come under his notice, that of a young woman. Half of the lashes of one of her eyes became snow white, which she attributed to the annoyance suffered from the persistent gaze of a "wall-eyed" admirer who had white lashes on the defective eye.

Several years ago I reported, in a German newspaper of this city, a case of a man where the hair of his scalp and beard turned white during a single night. I obtained the data from a report of a case by Dr. Landois von Griefswald. As to the shock which caused it, I could get no information.

The following undoubted case occurred in the clinical service of Professor Mosler of Berlin: A man, aged 34 years, was brought in, profoundly drunk. The next morning the doctors and patients noticed that the hair of his head and beard had turned gray. When he looked at himself in the looking-glass he exclaimed, *Ach Gott, wir sind die Haare grau geworden.* A microscopic examination was made in this case. The white hairs were filled with air-bubbles. There was no loss of pigment.

The hair has turned from white to black after exposure to severe cold. "On the 5th of January, 1895, we had a tremendous fire in Louisville," writes Dr. George W. Griffiths;[7] "the night was very cold and the streets were covered with ice and snow. The gentleman I shall present as the subject of these remarks is an engineer in the Louisville Fire Department, aged 65 years, who was on duty from 11 o'clock on the night of the 5th of January until 2 o'clock of the following day, except when he was taken away overcome by sheer exhaustion, and sent by my friend, Dr. Marshall, in a carriage to his home, where he remained two or three hours, and again returned to duty. Two or three sections of hose were leaking near his engine, and the spray was blown by a strong north wind until he was covered from head to foot with ice, which became so thick that it had to be cut or broken off from his clothing. This man was constantly at his engine, exposed to the north wind, which was carrying the spray of water from the broken hose. The top of his head was the warmest part of the body; his eyebrows and whiskers became wet and were frozen stiff. He had a red skull-cap over his head, and his helmet on top of that; his head was not exposed at all, nor any of his hair, except the eyebrows and whiskers.

"I saw him the next day, when he had a very feeble pulse, and was much exhausted and worn out. He had not been in robust health for some time. The next afternoon after the exposure to the severe cold, as I have indicated, his hair turned black; and the wonder becomes greater when we consider that his hair was perfectly white; before that he was blonde. Now his hair is black. I have known this gentleman for over forty years. The hair is oily and does not seem to be dead at all. His head has been very carefully scrubbed several times, as I was inclined at first to think that the change in color was caused by cinders or other foreign matter; but such did not prove to be the case."

The French supplement to *Le Grece Medicale* contains a curious account by Dr. Roveas of Amorgos, of a relative of his who died recently, aged 90 years. He had never been ill in his life, but the hair of his head and face had become prematurely white. Six months before his death, however, his beard and mustache suddenly became dark, the color continually deepening, "to the curiosity and stupefaction of all." Dr. Foristanos, the editor, adds a story of an old priest, whose white hair fell off, as the result of erysipelas, and was replaced by a thick growth of raven locks. Perhaps some cases of this kind may have given rise to the ancient Greek myths of rejuvenescence, as when

> Medea's spell dispersed
> The weight of years
> And Orson stood a youth
> 'Mid youthful peers.
>
> —*Medical Magazine.*

Alopecia is derived from the Greek word ἀλώπηξ, a fox—not because the loss of hair gives a man a foxy appearance, but the ancient Greeks thought that the bushy-tailed little animal was liable to baldness. A French medical paper prints what is believed to be the oldest medical recipe. It is a tonic for the hair, and its date is 4000 B. C. It was prepared for an Egyptian queen, and required dogs' paws and asses' hoofs to be boiled with dates in oil.

Theory after theory continues to be advanced for the cause of baldness. It was stated in an editorial article in the *British Medical Journal*, several years ago, that the "new man" finds it almost as difficult to keep his hair as the "new woman" does to find a husband. The theory of the bald-headed man generally is that his exceptionally active brain has used up the blood-supply which should have nourished his scalp; but those whose crop of hair still stands untouched by the scythe of Time unkindly hint that this explanation is of a piece with Falstaff's excuse that he had lost his voice by "singing of anthems." An American author has assigned indigestion as a cause. "Nature, we are assured, is very careful to guard and protect and supply the vital organs with the proper amount of nutriment, and when Dame Nature can not do it, she naturally cuts off the supply of parts least vital, like the hair and nails. I have observed that as a rule it is the best nourished man who is the baldest. I think that it was the virgin Queen Elizabeth who said that she did not look upon a man as being old until he was 'fat and bald.' Men of the build of John Sherman, who lives still, honored and beloved by his countrymen, and Abraham Lincoln and Gladstone, although thin and spare, had luxuriant hair. Bismarck, on the other hand, was large every way, very well nourished, and he is pictured as having had only three hairs on the crown of his head, and they stood up 'like quills upon the fretful porcupine.' "

In The Journal[8] there is an article on alopecia, in which the author claims that residual air is the cause of baldness, and explains why women are almost exempt from it.

Music appears to have an effect on the growth of the hair. Brass instruments have a fatal influence, notably the cornet, the French horn and the trombone. They will apparently depilate a player's scalp in less than five years. The baldness which prevails among members of regimental bands has been given the name of "trumpet baldness." It has been suggested that it is barely possible that the baldness which is said to prevail among the habitues of the front rows at the theater may be due to the proximity of the brass instruments, or may be caught by some contagion from the players themselves. Piano playing, on the contrary, seems to prevent or arrest the loss of hair, as is the case with Paderewski and Emil Sauer, and every noted pianist I ever heard of.

The late Prince Albert, consort to Queen Victoria, became bald at an early age, and he held that loss of hair was a sign of high breeding, of noble blood. This brings up the question of heredity.

At the meeting of the American Dermatological Association, held at Montreal, in September, 1895, a paper was read on "A Further Study of Alopecia Præmatura or Præsenilis, and Its Most Frequent Cause—Eczema Seborrhoicum." by George T. Elliott, M.D. "Also a preliminary bacteriological report on Eczema Seborrhoicum. *For the first time* successful production of the disease by inoculation of pure cultures of certain diplococci," by Wm. H. Merrill, M.D. Dr. Elliot gave the etiologic causes found active in the production of alopecia in 344 patients, mostly occurring in private practice. "Only four, or 1.16 per cent. could be attributed directly to heredity." Dr. Merrill found several varieties of bacilli, and made inoculation experiments on fifty patients. Pure cultures were made use of, and he succeeded, in advance of any bacteriologist, in producing lesions characteristic of eczema seborrhoicum.

Dr. L. Brocq[9] says that when bacteriology of the hair is taken up various microbes are found in it. Six are, however, discovered quite constantly. These are: 1, a white fungus; 2, a yellow fungus; 3, a bacillus subtiliformis; 4, a bacillus in the form of a boat, staining with difficulty; 5, a special micrococcus which Saboraud designates provisionally under the name of micrococcus cutis communis; 6, the spore of Malassez, the flask of Unna, which he calls the bacillus asciformis. These two microbes, which appear to be the most important, are found in seborrhoics who are not attacked with alopecia areata.

Dr. R. Saboraud, of the St. Louis Hospital, Paris, by his experiments has given convincing proof that the microbacillus is the constant microbian expression of seborrhoic infection, causing baldness. Saboraud says: "The three organs of defense possessed by the skin are the epidermis, the derma and the migrating white corpuscles. Each of these organs of defense defends itself by the same function for which its differentiated form has prepared it. The epithelial cell defends itself by making horny cells, the fiber cells by making fiber, and white corpuscles by their constant rôle of a unicellular ameboid seizing the enemy, closing in around it and feeding on it. Every microbian lesion must be regarded simply as a battle-field. This conception is the foundation for all pathologic histology, and unless this is thoroughly understood, the whole phenomenon is a mystery, while once grasped everything becomes plain; the exfoliation is merely the epidermis defending itslf; suppuration merely the leucocytes defending themselves; and the induration merely the mechanics of the fibrous defense. Each tissue, each element, is independently defending itself, and we know that any direct irritation of a living cell induces its multiplication, whether the irritation is mechanical or toxic. The process is a blind, unintelligent process, often defeating its own aim, as when a white corpuscle seizes a microbe and carries it away with it, but is conquered by the microbe. The microbian lesion, as we see it, is not a passive scene of destruction by the microbe. It is essentially a cellular reaction on the part of the organism against invasion, a defensive apparatus erected by the organism itself, and this conception of it places dermatology in an entirely different light, and renders a new classification necessary. Our present classification is like a pharmacy in which all the drugs are arranged according to the size of the bottles without regard to their contents."

BIBLIOGRAPHY.

1. Am. Health Primer.
2. Prog. Med.
3. Dublin Med. Jour., 1861.
4. Virchow's Archiv., vol. clvi, No. 1, 1899.
5. Med. Times and Gaz.
6. Washington Jour.
7. Jour. of Cut. and G.-U. Dis., Sept., 1895.
8. Jour. Am. Med. Ass'n, Dec. 23, 1899.
9. Jour. of Cut. and G.-U. Dis., Sept., 1895.
10. Annales de Derm. et de Syphil., Paris.

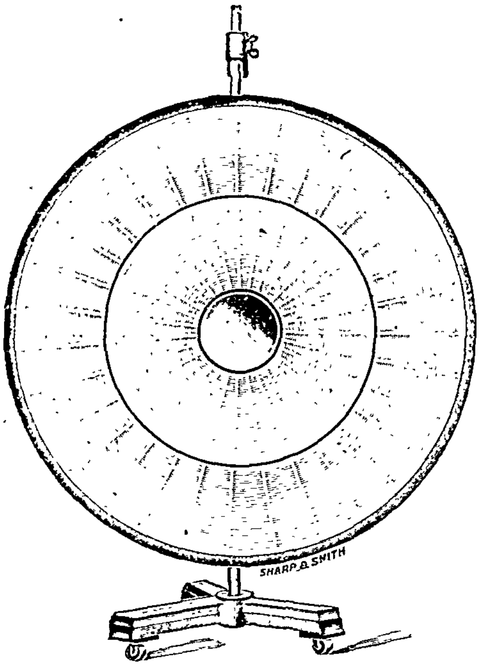
Carcinoma Metastasis in the Skeleton.—Virchow recently exhibited preparations showing numerous cystic cavities in the bones, particularly numerous in the spine. The bodies of some of the vertebræ had entirely vanished and deposits of lime infiltration were found in the lungs, but never noted to such an extent as in this case. The aspect of the bones resembled that of pernicious anemia.

INSTRUMENT FOR USE IN PHOTOTHERAPY.

BY J. W. KIME, M.D.

FORT DODGE, IOWA.

I have devised and am now using, in the treatment of cases by means of concentrated light, a reflector which is so constructed that the direct rays of the sun falling on it are focussed at a distance of eight feet, on an area six inches in diameter, the reflector being thirty inches in diameter. Thus a light is produced equal in intensity to twenty times that of direct sunlight, and covering an area of twenty-eight square inches. As the actinic rays of the sun are desired rather than the heat rays, blue glass is placed in front of the reflector, which permits of the passage of the light in nearly its full strength, but excludes a large percentage of the heat rays. The reflector is mounted on a metal stand which permits of motion in all directions. The light from this reflector is as powerful as it is possible to make use of on account of the accompanying heat.



THE KIME PHOTOTHERAPY REFLECTOR.

AS USED IN TUBERCULOSIS OF THE LUNGS.

The method of using the instrument is as follows: The part on which the intense light is to be used is made bare and the patient is placed in front of the reflector, and at a distance of eight feet from it; the rays of the sun fall directly on it, it being so placed that the reflected rays will be focussed on the part to be treated. If the heat be too great at the focal point, the patient may be seated either within or beyond the focal point of the reflector.

Concentrated light is useful in the treatment of a number of diseases and especially in those of parasitic origin. It has long been known that strong light, and particularly the direct rays of the sun, was very destructive to bacteria. For this reason light is practically excluded from our bacteriologic laboratories. Finsen, of Denmark, has established a light institute and reports excellent results in the treatment of lupus and other parasitic skin affections. Abrams, of California, reports a number of cures of tuberculosis of the lymph glands as well as of lupus and other skin diseases of parasitic origin. The writer has reported a number of cures of lupus and of tuberculosis of the lymph glands of the neck.

In the treatment of tuberculosis of the lungs in its earlier stages, the light penetrates the chest wall and, I believe, has some germicidal influence on the bacilli in the lung. But the action of the light is not confined to its local effects alone on the parts diseased. The blood, every drop of which passes a number of times through the area bathed in the powerful light during each treatment, is without doubt beneficially influenced by the chemical action of the light upon it. It is still too early to report final results upon cases of tuberculosis of the lungs being treated in this manner, but I have much reason to believe that sunshine thus used will result in permanent good in the treatment of these cases.

In the treatment of chronic joint affections the reflector is used in the same manner, and has, over the apparatus in which high temperatures alone play a part, the additional advantage of the beneficial action of the powerful light.

THE INFLUENCE OF HIGH ALTITUDE ON ALBUMINURIA.*

BY EDWARD C. HILL, M.D.

DENVER, COLO.

The following brief remarks are based on the examination of something over 6000 urines in Denver, at an altitude of one mile above sea-level. No statistics having being kept, the few observations I have to make should be regarded as clinical impressions rather than as strictly scientific data.

In my experience, true renal albuminuria is comparatively rare in Colorado. This desirable state of affairs is probably due for the most part to atmospheric dryness and rarity, both of which favor the eliminative action of the lungs and skin and thus relieve the kidneys in a corresponding degree. It is true that frequent winds and sudden weather-changes are a feature of Colorado's climate, so that patients must be warned to dress themselves accordingly, since acute exacerbations are otherwise likely to supervene.

---

*Presented to the Section on Practice of Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Acute nephritis, though not common here, is exceptionally severe. Amyloid disease is certainly less frequent under predisposing circumstances than most of our text-books would lead us to infer. Chronic parenchymatous nephritis appears to terminate fatally in about the same time as at lower altitudes. The chronic interstitial type of the disease, on the other hand, is influenced favorably by this climate—a fact which I think may be ascribed largely to its tonic, invigorating qualities.

The reports of the bureau of health of this city show 77 deaths from nephritis in a total of 1838 for the year 1897, and 85 deaths from the same cause out of 1928 in 1898. These statistics are very favorable, but they should be considered in the light of the fact that the population of this city averages younger than that of eastern cities.

I invariably examine the urine of infectious cases, and have found albuminuria at some time or other in the majority of instances, but actual nephritis is quite rare, even in diphtheria and following scarlatina. Renal tuberculosis, as might be supposed from the great number of phthisical persons in this state, is comparatively common. It seems to be little influenced by the climate.

As regards other forms of albuminuria, though pregnancy is not infrequently attended by considerable albumin in the urine, serious eclampsia is, I think, less common than at lower levels. Slight, transient, circulatory albuminuria, due chiefly to high blood-pressure, is frequent here, particularly in the ubiquitous bicycle rider. Hemic forms of albuminuria are benefited by the hematosic action of Colorado air and sunlight. Of heterotoxic forms of albuminuria, that due to metallic poisons is seen rather frequently in our smelters and miners. The albuminuria of pyelitis appears to be of more common occurrence here than at sea-level, which may be ascribed, perhaps, to the greater density of urine, favoring precipitation of uratic and phosphatic sediment and the formation of calculi. The false albuminuria of cystitis and urethritis is doubtless fully as frequent in Colorado as elsewhere.

VESICORECTAL ANASTOMOSIS.

WITH SPECIAL REFERENCE TO THE TREATMENT OF EXSTROPHY OF THE BLADDER.

BY JACOB FRANK, M.D.

Surgeon to the German Hospital; Consulting Surgeon to the St. Elizabeth Hospital; Jewish Orphan Home and Home for Aged Jews, Chicago; Corresponding Member of the Sociedad Medica "Pedro Escobedo"; Member of the Pan-American Congress, International Medical Congress, AMERICAN MEDICAL ASSOCIATION, etc.

CHICAGO.

The methods of treatment of ectopia vesicæ have not been very variable and are confined as a whole to two procedures, viz.: the plastic and the various methods of diverting the course of the urine.

Plastic Methods.—The plastic operations which have been performed, and which have for their object the covering of the exposed mucous surface with skin, aim at remedying only the cosmetic effect, which is but a minor evil. In this category belong those of Holmes, Wood, Le Fort, Thiersch, Hirschberg, Kocher, Hagenbeck, Auger, Greig Smith and many others who added much to this method by their own personal technic. All these methods, although they have done much toward the plastic repair, have many objections. They do not provide a sphincter, and although by covering the exposed mucous membrane they preserve it from external irritation, they do not prevent the escape of urine. The inverted skin flap with its growth of hair favored incrustations of calcareous salts and so irritated the mucous surface worse than before.

Sonnenburg advocated the entire extirpation of the exstrophied bladder, and the implantation of the ureters at the base of the penis, possessing the advantage that the escaping urine could be more effectually caught in a urinal intended for that purpose. Trendelenburg sutured the edges of the bladder after forcibly narrowing the pelvic girdle, thus resuming the operation conceived by Dubois and Dupuytren in France, a plan which has found little favor, as it is open to the same objections as the other methods above described.

The experiments of Tizzoni and Poggi, while they are ingenious, are of little practical purpose. They first isolated a loop of intestine, after the method of Thiry, and at a subsequent operation they ablated the entire bladder, then sutured the ureters into the artificial intestinal loop, and finally sutured this loop to the neck of the bladder. Recently Rutkowski imitated this procedure in a case of exstrophy of the bladder, but his operation is only a novelty in the history of surgery. In his technic he made an abdominal section above the level of the exstrophied bladder, drew out a loop of intestine and resected six centimeters of it. This he left attached to the mesenteric pedicle to receive its vascular supply. The severed ends were closed by circular enterorrhaphy, the excluded segment was split opposite to its mesenteric attachment and the mucous membrane stretched out and sutured to the margins of the bladder after being freshened. The abdominal walls were next approximated so as to cover the bladder. The patient recovered and eight weeks after the operation was able to retain over an ounce of urine for three-quarters of an hour.

Methods of Diverting the Course of the Urine.—The idea of implanting the ureters into the intestines is not new. Simon, in 1851, attempted it on a human subject, and the failure of such an early effort is not surprising when we consider the imperfection of the technic and the absence of antisepsis. The fruitless attempts of Simon, Lloyd and Roux found few imitators, and the question was held in abeyance for many years until aseptic methods gave a new impetus to operative surgery. The union of the ureters with the intestine is not an unusual condition. It is well known that in birds urine and fecal matter is emptied into the cloaca during the entire life. Embryology teaches us that the secretions from the kidneys in the human fetus empty into the cloaca during the first months of gestation. This continues until the time when, in the developmental progress, the bladder is entirely separated from the rectum.

Simon's effort consisted in passing a loop of thread through the walls of both the ureter and the rectum, and tying them tightly together. Necrosis occurred at the point of ligation, and a communication resulted. The patient died of pyelonephritis. Thomas Smith derived no better results from his case. Since then the idea has been renewed and the answer especially sought from the experimental as well as the clinical standpoint, until to-day the suggestions and methods have multiplied to an almost embarrassing extent.

The first in the experimental field were Glück and Zoller, who tried, on dogs, the effect of total extirpation of the bladder with subsequent deflection of the ureters, sometimes to the skin, sometimes into the rectum. The latter was in all cases unsuccessful. About the same time Bardenheuer tried unilateral implantation into the intestine. His animals recovered from the operation, but subsequently died from hydronephrosis due to stricturing of the ureter.

Novaro reported, to the Italian Surgical Society of Genoa, in 1887, that he had successfully anastomosed both ureters with the intestine, and demonstrated that the intestinal mucous membrane is well able to accommodate itself to the presence of urine—a point already established by Richardson, who cites the case of a patient living seventeen years with a congenital implantation of both ureters within the intestine. Paoli and Busachi reported a number of similar experiments, and in nearly every case a constriction of the ureter developed.

Giordano, VanHook, Tuffier, R. Harvey Reed, Morestin, Chaput, and, recently, Kalabin tried similar experiments on dogs, but their results are no better than those of their predecessors. For the relief of exstrophy, Sonnenburg and Harrison, discouraged by the difficulty of ureteral implantation, tried to divert the urine through a cutaneous fistula, an operation performed before by Glück and Zoller. Among others who have experimented in the same direction may be mentioned Le Dentu, Pozzi, Dastre and Treckacki.

In this hasty review the efforts of Pawlick and Boari to divert the urine through the vagina should be recorded. Küster, in 1891, for cancer of the prostate, implanted both ureters in the rectum, but the patient died on the fourth day, of peritonitis and evidences of renal infection. Chaput, in 1892, performed unilateral implantation for the relief of a uretero-vaginal fistula, with success; in another patient, for tuberculosis of the bladder, he implanted both ureters, but at different times, the patient dying from anuria, after the second operation.

The results of these experiments and isolated clinical attempts are almost uniformly unsuccessful. The technical difficulties have been fairly well overcome, but the dangers of septic peritonitis, secondary pyelonephritis from ascending intestinal infection through the ureters, hydronephrosis from stricturing of the ureter, were still unfavorable and unavoidable complications. In order to overcome these Tuffier and Maydl, each claiming priority, proposed and carried out the implantation of the vesicle trigone, thus avoiding the possibility of stricturing and ascending infection. In fact, it is the preserving of the ureteral sphincter that protects the ureter itself and the kidney against infection. As long as the ureter is permeable and its sphincter functionating, so long is the kidney protected.

Boari and Chalot, subsequent to Tuffier's and Maydl's work, each devised a special button for anastomosing the ureters to the intestine, with only moderate success. Others who have contributed by their efforts, since the advantages obtained by transplanting the vesical trigone, are Fowler, Pisani, Martin, Vignoni and Roux. My own work in this direction was commenced in the spring of 1898, when a series of experiments was conducted on both unilateral and bilateral implantation of the ureters in the intestine after a method of my own, with no better success than those preceding me. I then turned my attention to anastomosing the bladder to the rectum, an idea which I thought was original at the time, but in the discussion of the paper before the Chicago Medical Society my attention was called to an operation performed by Timothy Holmes, mentioned in his "Surgical Diseases of Infancy and Childhood." He attempted to establish a vesicorectal fistula by means of a screw-blade and forceps, and describes his operation as follows:

> In the case of a boy in whom I had planted a bridge of skin in front of the exposed mucous membrane, who found much difficulty in procuring a proper urinal, I endeavored to divert the urine into the rectum by the following plan, which, or a modification of which, I proposed to follow in the next case that came under my care. I placed the blades of a kind of screw forceps (much resembling Dupuytren's entérotome) in the rectum and bladder, and by bringing them gradually into the closest possible contact I destroyed the tissues between them, thus establishing a free communication through the subperitoneal tissue between the bladder and rectum. The attempt failed; for though the urine passed in considerable quantities into the bowel, a good part of it still continued to escape above the pubes. I endeavored to obviate this by closing the suprapubic opening altogether by plastic operation. The opening was thus, in fact, reduced to a sinus, but this caused such intolerable pain when the bladder was distended, and such accumulation of sabulous matter in it, that I was fain to abandon the attempt, break open the suprapubic hiatus again, and allow the rectal communication to close. The original fault of the proceeding lay, I think, in my having covered over the opening of the ureters before I applied the screw forceps Had I been able to comprise these openings in the tissue which I destroyed, so that the ureters would have opened directly into the cloaca between the bladder and rectum, I believe the attempt might have succeeded. In my case, though it was a failure in other respects, the communication between the bladder and rectum was established without producing any unpleasant symptoms, and the communication was well above the sphincter, so that the urine was retained in the bowel, and passed naturally along with the motions.

The operation and technic, which is original, now remains for consideration, and consists of anastomosing the bladder to the rectum with my decalcified bone coupler, which has already been described.[1] The technic is as follows: in a male dog, the incision is made in the groin, and in a bitch, in the median line. Generally the bladder is found distended, and is emptied by squeezing it gently with the hand, when the urine escapes through the natural channel. The rectum is next picked up and freed of its contents, as in any intestinal operation. The bladder and the rectum are then brought forward and placed in position for anastomosis. (Fig. 1.) Two or three interrupted Lembert sutures are now taken about half an inch below the lower ends of the incisions determined on in the bladder and rectum, care being exercised in selecting them that the coupler, when it is inserted, will not encroach on the ureteral openings in the bladder. A longitudinal incision is then made in the bladder, large enough for the coupler selected, and a puckering string, applied over and over the cut margin. (Fig. 2.) The rectum is next opened in its long axis and a puckering string similarly applied. The suture should be taken so that the free ends lie uppermost, thus facilitating easy tying. The operator now slips the coupler (Fig. 3) into the bladder opening, at the same time gently spreading the collars apart, while an assistant makes one knot and draws down on the puckering string until the rubber tubing is felt; another knot is made and the ligature cut off short. The other half of the coupler (Fig. 4) is then slipped into the rectal opening and likewise tied and cut off. Several interrupted Lembert sutures are taken around the borders, to make the work more secure. The operation is very simple and can be accomplished in ten or fifteen minutes.

In the first six experiments, a five-eighths-inch coupler was used, but later, in large dogs, a seven-eighths-inch, and in smaller dogs a three-quarter-inch coupler was inserted. The small piece of rubber tubing never failed to pass away. Silk was used in all experiments.

---

[1] Medical Record, N. Y., Oct. 3, 1896; THE JOURNAL, June 19, 1899; Medicine, January, 1897.

The opportunity of trying this new method on the human being has not been afforded me, although it was tried on the cadaver and the technic carried out nicely. Of the fifteen dogs operated on, nine recovered and six died. In the first two experiments the technic was not yet perfected and much unnecessary work was done, which undoubtedly contributed largely to the failures. As a rule, the dogs were quite sick for the first few days, and showed signs of pain, with rise of temperature. For a week after the operation urine and feces were voided oftener than after this period. The dogs would hoist their legs as though in the act of urinating, without accomplishing anything, and finally squat down and urinate from the rectum. The animals that were kept, accustomed themselves to their condition and urinated periodically. The feces were always passed in a liquid form, being softened by the urine. This latter appears to confirm the observation of Novaro, that the rectal mucous membrane readily adapts itself to the conditions of a urinary receptacle. In the following experiments the bacteriologic and pathologic examinations and microphotographs were made for me by Dr. Maximilian Herzog, professor of pathology in the Chicago Polyclinic.

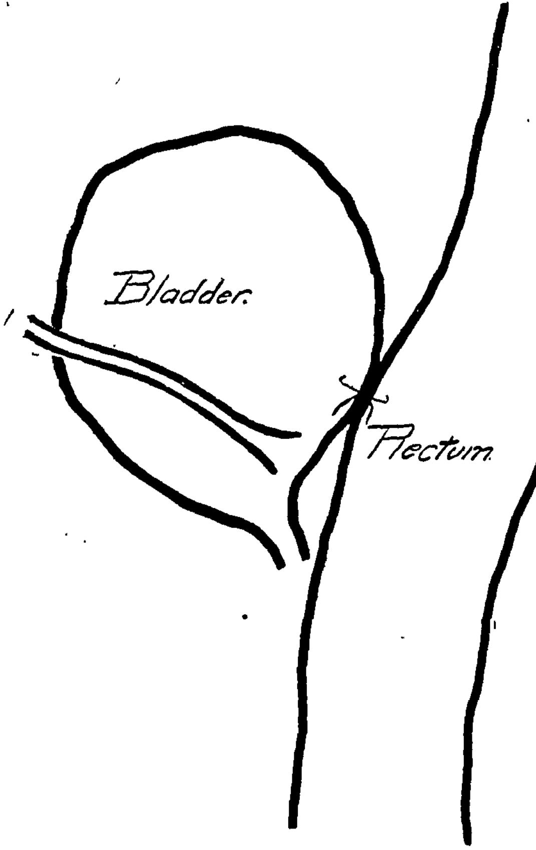


Fig. 1.

EXPERIMENTS.

Experiment 1.—A male dog, weight 25 pounds, was operated on April 18, 1899, and found dead April 22. Rats had disturbed the parts, through the operative wound, so that one could not judge whether peritonitis was present. The autopsy revealed a contracted, thickened, and very much congested bladder. Over the anterior opening the omentum was adherent throughout. The ureters were not enlarged, but the capsules of the kidneys were greatly congested. The kidneys appeared normal on cut section. The coupler was still in place and the bone somewhat softened. The rectal mucosa, a few inches above and below the site of the anastomosis, was very much injected. No microscopic nor bacteriologic examinations were made.

Experiment 2.—A male dog, weight 20 pounds, was operated on April 25, 1899, and died April 27. A post-mortem showed a condition of general peritonitis, with the intestines adherent throughout. A pus-like fluid exuded from the wound incision, and the peritoneal cavity was found full of a serous effusion. The bladder was thickened, contracted and greatly engorged. No urine was present in the bladder. The ureters and kidneys showed a marked congestion, but no enlargement. On cutting open the bladder the coupler was found still in place and softened. There was a distinct line of demarkation at the sphincter vesicæ, showing where the inflammation had stopped. The kidneys, on cut section, showed marked engorgement. Here also no bacteriologic nor microscopic examinations were made.

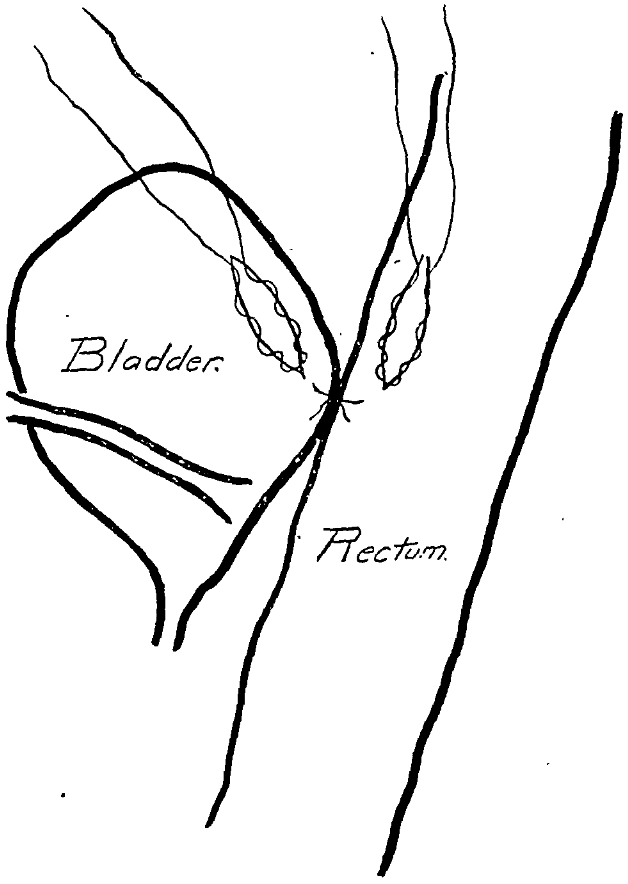


Fig. 2.

I am satisfied that the rough usage of the parts and the imperfected technic were the prime factors in producing the fatal results in the first two experiments.

Experiment 3.—(Fig. 10).—A male bull cur, weight 30 pounds, was operated on May 3, 1899, and killed December 15. This dog, before the cold weather set in, was very lively and active, but with the onset of winter and the lack of proper exercise, began to show signs of decline. For several days prior to the killing, he refused food and drink and was moribund when chloroform was administered. At autopsy, externally there was found, to the left of the operative incision, an old, slightly suppurative stitch-hole abscess. The long median post-mortem incision was carried to the right in order to avoid the original laparotomy incision, and the omentum was found adherent to the anterior abdominal wall and to the left of the laparotomy scar. The adhesions were comparatively firm. The large omentum had been dragged down in such a manner as to pull down the lesser omentum. The latter, in its descent, had displaced the spleen, so that this organ extended from above downward, parallel to the long axis of the body. In a like manner the stomach and duodenum had been pulled down to a marked degree. The adhesions of the large omentum to the anterior abdominal wall had formed, so that they compressed the left ureter near its place of entrance into the bladder. At this point it was slightly bent and constricted, and enlarged to about twice its normal size above the point of constriction, which enlargement extended up to the pelvis of the kidney. The left kidney itself, as a whole, did not appear enlarged. When laid open, its substance looked fairly normal, though dull, as if in a state of cloudy swelling. The pelvis was slightly enlarged and contained a small amount of a yellowish, somewhat cloudy fluid. The right ureter and kidney appeared normal, and the anastomosis between the bladder and rectum was perfect. The bladder was firmly contracted and the mucous membrane looked pale on cut section, but showed no evidence of inflammation. The peritoneum in the neighborhood of the anastomosis was smooth and glistening and everywhere appeared normal, except as to the omental adhesions described above. The spleen was dark red in color and its substance firm. The liver was of the same color, but rather soft, and in some places the capsule appeared dull, with circumscribed areas presenting the picture of perihepatic processes. The lungs and heart were normal, although the heart muscle was rather soft and flabby.

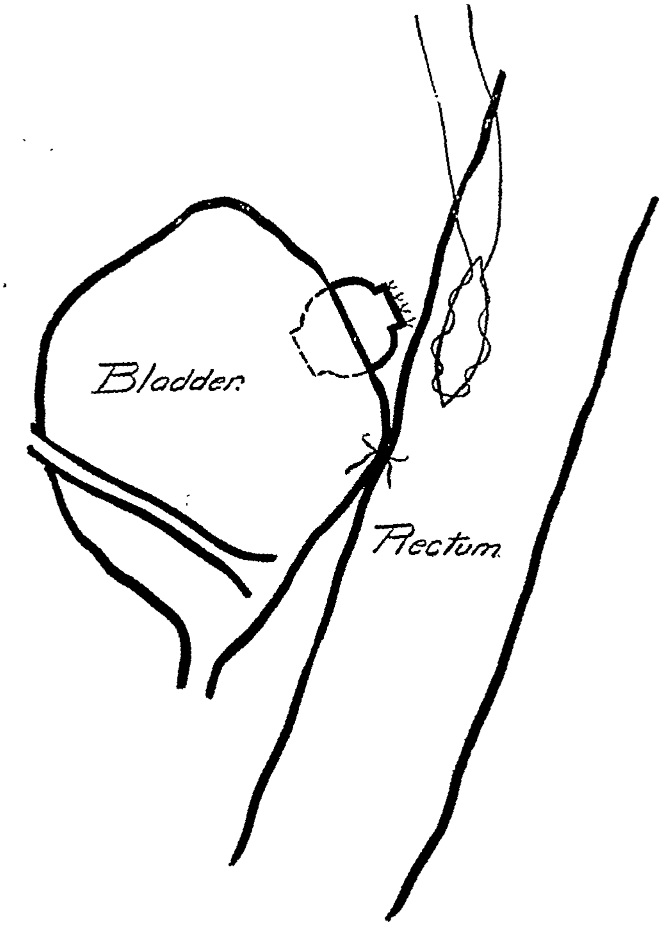


FIG. 3.

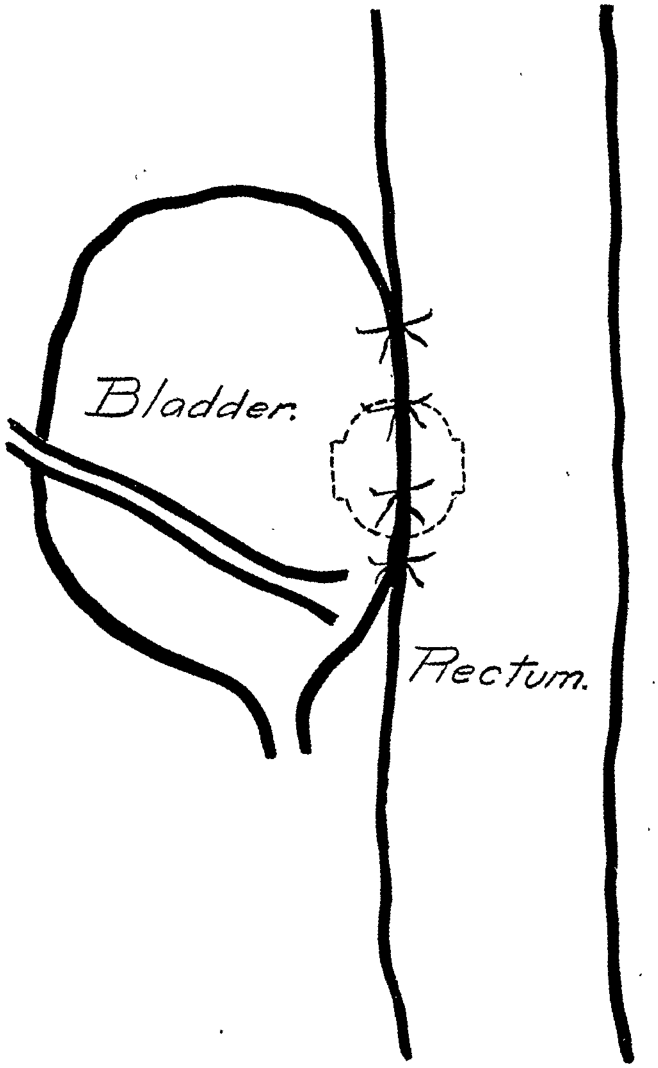


FIG. 4.

At the post-mortem the following technic was conducted and carried out, and in the same manner for all the experiments. The kidneys were freed from the surrounding connective tissue, and a heated platinum loop introduced into the pelvis, and cultures made under the usual aseptic precautions. The ureters were then dissected free and the kidneys, ureters, bladder and part of the rectum removed *en masse*. Pieces of tissue were taken from both kidneys, the spleen and the liver for microscopic examination. These were fixed in Müller's formalin solution, and subsequently embedded in paraffin, then sectioned, and stained according to various methods. The culture-tubes inoculated from the kidneys developed colon bacilli and a white yeast.

Histologic Examination.—The epithelium of the pelvis was found intact in the left kidney. The subepithelial tissue showed a very dense round-cell infiltration. The epithelial lining of the uriniferous tubules was in a state of cloudy swelling, and fatty degeneration. Some of the uriniferous tubules contained hyaline casts. Extensive foci of interstitial inflammation were also found and showed a dense round-cell infiltration. They appeared to be of comparatively recent origin, since tracts of fibrous connective tissue so frequently seen in old chronic interstitial nephritis were not found. The whole kidney, from the subepithelial layer of the pelvis to the cortex, was thoroughly infected with colon bacilli, which were found in enormous numbers in some areas.

The *right* kidney showed changes similar to those found in the left, but they were, however, much less severe. The inflammatory infiltration of the subepithelial layer of the pelvis was well marked, as were also the parenchymatous changes (cloudy swelling, etc.). Interstitial changes were practically absent. The infection with colon bacilli was moderate when compared with that of the extensive infection of the left side.

The *liver* showed only slight histologic changes. There were present cloudy swelling of the liver-cells and a very moderate amount of small round-cell infiltration around the interlobular veins. The interlobular connective tissue proper was not increased in amount, but a large number of colon bacilli were found scattered throughout the whole liver tissue. The *spleen* likewise showed no very marked histologic changes, but a moderate infection with colon bacilli. Though the cultures from the pelves of the kidneys had developed a yeast micro-organism, none were found in the tissues.

From the above it must be conceded that the dog suffered from a general colon infection at the time when he was killed, but it may be granted, from the histologic examination, that the infection of the kidneys took place only recently, which presumption is borne out by the fact that the dog had been lively and well for six or more months after the operation and had been sick only a short time before it was killed. Probably the omental adhesions with their train of sequelæ, displacement of the spleen, stomach, duodenum and compression of the left ureter, became the agency which led to the infection of the kidneys. The infection of the liver had very likely taken place only recently, by way of the gall-ducts, from the intestinal tract. The generalization of the infection may either have taken place from the kidneys or, what is perhaps more probable, from the liver.

(To be continued.)

SPECIAL ARTICLE.

RELATIONS OF PHARMACY TO THE MEDICAL PROFESSION.*

IV.

INTERNAL MEDICINES.

While considerable latitude may be extended, as mentioned last week, in the ethical requirements, to articles designed for purely external use, such exemption can not be applied to medicinal agents or preparations for internal administration. While it may be broadly asserted concerning every method of medication, oral, subcutaneous or orificial, that the therapeutic effect derived from a remedy depends as largely on the quantity of the particular agent that may "reach the spot" as it does on the amount of the medicine administered, yet for the general therapeutic purposes indicated by preparations for external use, the actual amount of the active agent applied is as a rule of but little consequence compared with the quantity given as a dose of any internal medicine. The only safe rule, therefore, governing the administration of medicine for internal use, is that the composition must be known, and the quantities of the medicinal ingredients of a mixture and the strength of the active constituents of simple preparations must be accurately given. There should be no compromise in this position; medical ethics and medical practice demand it, medical literature and pharmacal practice require it. The identity of the medicinal agent must be certain so that its properties may be disclosed; the strength of the preparation must be known in order that uniformity in effects may be fairly secured and that dosage may be determined.

THE FORMULA PRIVILEGES.

In solutions, liquid mixtures and extractive preparations, the selection of the particular solvents, vehicles and menstrua respectively employed in their preparation is based almost entirely on pharmaceutic considerations. The stability of the solutions, for example, the eligibility or palatability of the mixtures and the permanence of the liquid extractive preparations are the chief desiderata. In official preparations these qualities are secured through the reported researches of practicing pharmacists, and consequently are constantly undergoing improvement. These processes are no more perfect than many a process in operative surgery; the tendency is toward perfection—apparently often attained, but more often only prospective.

The question that now arises is this: If a pharmacist, through his greater experience, skill and integrity, succeeds in producing a more stable, palatable, or otherwise more eligible preparation than has usually been afforded from the same mixture or drug, should he simply make such a working formula public for the benefit of pharmacal literature, or should he be permitted to seek such advantage, through exploitation of the superiority of the preparation to the medical profession, to which he may consider himself entitled as a recompense for his labors?

No doubt from a purely ethical standpoint he should be satisfied with the first course, but there is another side to the question; if he has really made an improvement he might be afforded some protection for a limited period, as is done in France, where the National Academy of Medicine is made censor of medical preparations, and decides which shall be awarded protection. In the same way the American Medical Association, possibly in conjunction with the American Pharmaceutical Association or the Committee on Revision of the Pharmacopeia, might form a committee whose annual reports should determine the status of these medicinal articles. A formula may be ever so complete in detail and yet not produce satisfactory results at the hands of different workers. The personal equation must be considered, i. e., the experience, skill and integrity of the pharmacist.

LIMITATIONS IN PRACTICE.

Like some other branches of medical service, pharmacy is yet in its formative stage. With the practice regulated by law in forty-five states, in no state is it required that a pharmacist shall have graduated from a college or attended a school of pharmacy as a condition for examination and license by the state board. The result is that while there is no lack of good schools, these are poorly supported, since the vast majority of young pharmacists find that they can, as a rule, easily pass the necessary examination without attending college; the comparatively small proportion who attend school are forced into competition with the non-graduates, but licensed pharmacists, with the inevitable result of reducing them to the irresistible commercial level. They are also still in competition with the hold-overs who were engaged in the drug business some fifteen or twenty years ago, when the pharmacy laws were first enacted; many young pharmacists, well educated, finding little opportunity to practice pharmacy, begin to lose heart and soon fall into a "rut." This is practically the condition of pharmacy throughout the United States to-day.

A formula is a formula—nothing more; it is incomplete without the *secundum artem*, as in all other technical operations from culinary to music. With the official preparations, the methods of manufacture are detailed with great exactness, and it must be assumed that every licensed pharmacist is competent to carry out the directions, yet many can not prepare a perfect "Griffith's mixture." Some may know how but are careless in the selection of the ingredients, do not "expend the necessary synovial fluid," and do not strictly observe the order of adding the many various ingredients. How many pharmacists can make a perfect turpentin-oil emulsion? Some can not even make a perfect one of cod-liver oil. Such a condition should not exist, but it does. So long as a better standard of pharmaceutic service can not be relied on uniformly, the physician must necessarily either pass by the pharmacist by prescribing ready-made medicines, or discriminate in favor of those who are regularly educated and have demonstrated their ability and integrity.

LACK OF STANDARD IN PHARMACEUTIC SERVICE.

It may be said that there are many competent pharmacists in the large cities and sometimes in smaller places, and they are easily discovered. The simplest and most effective method by which a physician can distinguish the true pharmacist from the pseudopharmacist or "druggist" is to engage him to make a preparation, for example, one of those mentioned above, or one that requires special skill.

---

* The fourth of a series of articles to appear weekly in The Journal, designed to correct the abuses from advertising and patronizing pharmaceutical specialties.

It should be remembered that a license is simply a testimonial that the holder has a fair knowledge of drugs and medicines, and can differentiate them and thus prevent error in dispensing and compounding; that he can make the simpler official preparations, waters, solutions, tinctures, etc,; but not necessarily that he has the skill or ability required for any work outside the ordinary routine. If physicians would interest themselves a little more in the younger graduates in pharmacy, and give them opportunities to practice their art whenever possible, these young men would soon be imbued with a professional spirit, realize that pharmacy is a profession—a specialty in medicine—and become better qualified; counter-prescribing and many other evils would cease.

It is not alone in these compound preparations and mixtures that the formula is not always the *sine qua non.* While occultism in medicine belongs to the past, there are many brands of official preparations and even chemicals that maintain the preference of medical men. A considerable number of the older practitioners insist on using one special make of fluid extract of ergot, and this may be said in a still greater degree of one brand of chloroform for use in anesthesia. Until comparatively recently, one special brand of quinin sulphate was the only one that many physicians would use, and in some of the Southern states no other could be sold at all. These discriminations may not have a scientific basis, yet they exist.

The above observations have been made in order to set forth the status of the protective medicines as completely as possible, and to serve as a guide in determining the often-complicated questions involved in their relations to medicine and the medical profession.

In the article in THE JOURNAL two weeks ago, these medicines were classified as follows: 5. Proprietary pharmaceuticals, secret. 6. Proprietary pharmaceuticals, non-secret. 7. Pharmaceutical specialties, mixtures. 8. Pharmaceutical specialties, simples. These will be taken up in their order.

SECRET PROPRIETARY PHARMACEUTICALS.

These are preparations of secret composition—for internal use—protected by trade-marks or copyrighted names, offered for medical prescription. From the fact that they are secret and are sooner or later exploited to the laity, they should never receive medical patronage. They range in degree of secrecy from mixtures of fairly descriptive and therapeutically suggestive names, such as, "Antikamnia" and "Melachol," to the most bare-faced swindles that have ever been perpetuated since Cagliostro replenished the exchequer of Louis XV with gold bricks made by transmutation of the base metals from the proceeds of the bandits who, in his employ, were holding up the nobility and gentry in the Italian mountain passes, on their way to Rome.

A few examples will suffice: 'Essence of Oats," some ten years ago, vaunted as a most wonderful restorative, was found to be a preparation of morphin. More recently a preparation made from a plant discovered by a Texas physician, growing in the everglades in Florida and only collected at the risk of sacrificing human life, was recommended in a New York medical journal as a cure for the opium and morphin habit, but was found on analysis, to be a preparation of opium. "Gleditsopine," an alkaloid alleged to have been obtained from the plant Gleditsopia triacanthos, and exploited by a prominent house, was a mixture of morphin and atropin. "Flora-China," introduced by a concern in Florida, as identical with quinin in all properties save that it was tasteless, on examination proved to be calcium sulphate, gypsum or plaster-of-Paris. These articles were advertised to physicians, and many not only used them, but gave testimonials extolling their virtues.

Besides these examples of rank frauds there are all grades of deceptive articles until a class of mixtures which have suggestive trade-marked names, sometimes associated with a more or less correct definition of their derivation, is reached. One of the earliest and most successful of this class was "Antikamnia," claimed to be a "combination of coal-tar derivatives," and to possess antipyretic and analgesic properties. It proved to be a mixture of acetanilid and caffein with sodium bicarbonate and a little tartaric acid—a combination early adopted by medical men to insure more uniformity in the action of the acetanilid and to modify its effect on the heart. This soon had many imitations and paved the way for the introduction of the various "headache-cures" and "remedies" which, in the form of powders, wafers, capsules and tablets, disgrace the show-cases of the drug stores throughout the land, and, it may be mentioned incidentally, have been furnishing plenty of work for the undertakers. Being extensively employed, they were introduced into the revised edition of the National Formulary, in 1895, as: pulvis acetanilidi compositus—compound powder of acetanilid—"Kamma Fuga"—acetanilid, 50 grams; caffein, 2 grams; tartaric acid, 3 grams; sodium bicarbonate, 45 grams (reduce the ingredients separately to a fine powder and mix them thoroughly).

Other mixtures of similar composition are "Ammonol" and "Phenalgin" or ammoniated phenylacetamid, etc. In these two the sodium bicarbonate is replaced by ammonium carbonate. "Melachol," composition or formula not given, is asserted to be a bulwark against all diseases of the liver that may be caused by candies, rich foods, liquors, or neglect of exercise. To restore and permanently establish vigor of manhood it is "superior to any other known remedy;" "as a tonic, half a teaspoonful in water about meal-time; to move the bowels, one tablespoonful in a glass of water." This preparation is a colorless solution of citrophosphate of sodium and, according to analysis, the following furnishes a similar preparation: sodium phosphate, 100 grams; sodium nitrate, 2 grams; citric acid, 13 grams; water to make 100 c.c. On trituration of the salts with the acid, the new compound is formed and dissolves in the water of crystallization, thus forming a 100 per cent. solution.

The "Formula-preparations" will next be considered.

Therapeutics.

Treatment of Chronic Nervous Diarrhea.

At the recent Congress of Balneology, held at Frankfort-on-the-Main, Pariser (*Berliner Klin. Woch.*, April 2, p. 309) divided cases of chronic nervous diarrhea into several groups. The first includes those dependent on organic disease of the nervous system, such as tabes dorsalis, as well as those attending exophthalmic goiter, and rarely also diabetes. The remaining cases are instances of neurasthenic diarrhea, but here further subdivision must be made for etiologic, diagnostic and therapeutic reasons. The second group includes the cases of toxic diarrhea in which the neurasthenia is only secondarily the result of the intoxication. Toxic nervous chronic diarrhea occurs in consequence of intoxication by dying teniæ, and abuse of nicotin and morphin. The third group includes nervous diarrhea induced by reflex influences. The reflex may arise from the male and female genitalia, the stomach and the duodenum and through parasites. It has also been observed from a hernia of the linea alba and from enteroptosis. Also the obstinate diarrhea not rarely observed in cases of chronic gastritis is considered of reflex nervous origin. Here the irritation consists in the ingesta insufficiently prepared for intestinal digestion. The fourth group includes the cases of simple neurasthenic diarrhea. The condition is often one of a central phobia. Patients thus affected are often attacked with diarrhea, especially when influenced by the thought of being unable to reach a place of refuge. Further, chronic nervous diarrhea also occurs in conjunction with hysteria. The last group constitutes the mixed form of neurosis and intestinal catarrh. The mixed form of neurosis with isolated catarrh of the small intestines is especially obstinate and the prognosis is unfavorable. The latter is better in cases complicated with catarrh of the large and the small intestine or of the large intestine alone. The stools never contain mucus in cases of pure chronic nervous diarrhea. In the cases of toxic and reflex diarrhea the treatment should primarily be causal and local. In these, besides, an antineurasthenic régime should be observed, and in the purely neurasthenic cases this is of paramount importance. Isolation, that is, removal from previous surroundings, is especially desirable. In severe cases rest in bed and applications of heat are unconditionally required. The diet in all cases of chronic nervous diarrhea should be bland. As opposed to the opinion sometimes expressed, that no particular importance need be attached to the diet in these cases of mixed form of catarrh, the treatment must first be directed to the catarrhal state without neglecting the neurasthenia. Among drugs bromids are particularly valuable.

Urotropin as a Urinary Antiseptic.

At a recent meeting of the Leeds and West Riding Medico-Chirurgical Society, Cammidge (*British Med. Jour.*, March 17, p. 641), after briefly referring to a case of cystitis complicating enteric fever in which urotropin had proved beneficial, gave details of investigations that he had carried out with regard to the action of urotropin on the urine from patients who had taken it, on the bacillus typhosus, the bacillus coli communis and the staphylococcus pyogenes aureus under various conditions. He also described some chemical experiments designed to determine the mode of excretion of the drug in the urine, and the cause of its marked antiseptic and inhibitory powers over the growth of micro-organisms possessed by such urine. The result of these experiments seemed to show that although this action is in part probably due to the urotropin itself, excreted unchanged in the urine, another and more powerfully inhibitory substance is present. This was not thought to be free formaldehyde, but possibly a sodium compound of this substance. There is both clinical and experimental evidence tending to show that one condition necessary for success in using the drug as a urinary antiseptic is that the urine should be acid in reaction, as it is secreted in the kidney. Stress was laid on the marked inhibitory action of urotropin and still more of urine containing urotropin on the typhoid bacillus, and it was pointed out that there is a wide field of usefulness for this drug, both in the treatment of cystitis and other conditions liable to complicate enteric fever and as a preventive against the dissemination of typhoid bacilli by the urine. It was suggested that all patients suffering from enteric fever should receive 10 grains three times a day from the end of the second week on, during convalescence. Reference was also made to the usefulness of the drug in the cystitis accompanying enlarged prostate and stone, as well as the benefits to be derived from its administration in the presence of bacteriuria, some cases of nocturnal enuresis in children and as a preparation for operations on the urinary tract.

Treatment of Inguinal Hernia by Injection.

Scully (*Medicine*, April, p. 265) recommends the following formula as an injection in the treatment of inguinal hernia:

℞.	Fluid extract of quercus alba	℥iss
	Solid extract of quercus alba	℥iss
	Carbolic acid crystals	ʒii
	Iodin resublimed	ʒii
	Morphin sulphate	gr. x

Mix the carbolic acid and the iodin thoroughly in a mortar; and the other ingredients and triturate slowly. Twenty minims of this solution constitute the maximum quantity for a single injection. Before the injection is made, a truss that will retain the hernia in any position the patient may assume should first be fitted. After the parts have been prepared aseptically, the patient should be placed in the recumbent posture, the hernia reduced, and the index finger placed in the inguinal canal by invaginating the skin over the external ring and pushing the finger up the canal until the tip reaches the internal ring. The needle, which should be a stout one, from 1½ to 2 inches long, should be inserted directly over the finger tip and pushed down quickly until it passes the end of the finger. From 3 to 5 minims should then be injected slowly and, as the finger is withdrawn slowly, the needle is made to follow it for about half an inch. During this time the fluid is still injected slowly, and when the 20 minims have been injected the needle should be withdrawn suddenly to avoid depositing any of the fluid in the subcutaneous tissue. The truss should be placed in position immediately, and the patient lie down for about half an hour. Should pain follow, relief will be afforded by the application of a hot-water bag. The injections should be repeated once a week for three or four weeks, when, if the hernia does not come down on removal of the truss and after testing it by having the patient cough or stoop, no further injections need be given. The truss ought to be worn for at least four weeks more, when, if the patient desires, it may be left off. In most cases it is well to advise the wearing of the truss for from four to six months, and one with a large soft pad is preferable.

Treatment of Eclampsia with Saline Infusions.

At a recent meeting of the Edinburgh Obstetrical Society, Jardine (*The Lancet*, March 31, p. 938) reported 5 cases of eclampsia, in addition to 17 previously reported, treated with saline infusions, in which the diuretic effect had been prompt and marked. The solution used consisted of one dram each of sodium chlorid and sodium acetate to the pint of sterile water. From 2 to 3 pints were injected underneath the breasts, between them and the chest wall, or, if required, into the loose abdominal subcutaneous tissue. If necessary the injections are repeated. Besides, a saline purge is administered, sometimes with bromid and chloral and ten minims of tincture of veratrum viride by hypodermic injection. Of the 22 patients, 6 died, 1 from perforating duodenal ulcer. One was treated with ordinary saline solutions. This result compares favorably with that yielded by other lines of treatment for eclampsia, especially in view of the fact that many of the patients had been seized with convulsions for several hours before coming under observation, and the cases of some even had been considered hopeless. No risk attends the infusion and not a single abscess followed not less than 200 injections. Strict aseptic precautions must be observed.

Evaporating Lotion for Wounds.

Reed (*Annals of Surgery*, April, p. 431) recommends the following formula as an evaporating lotion for the saturation of gauze and application to wounds:

℞.	Boric acid solution, 3 per cent.	80 parts
	Alcohol	10 parts
	Glycerin	10 parts

The addition of 8 drops of a saturated solution of mercuric chlorid (mercuric chlorid 2 ounces, alcohol 2 ounces, glycerin 6 ounces) to a pint of the foregoing makes a solution of about 1 to 3500.

Diarrhea of Infants.

Cattaneo (*Pedriatria: Phila. Med. Jour.*) calls attention to the value of tincture of iodin in the gastrointestinal infections of infants. This remedy has also been praised by Grosch and Stahan. The following combination is recommended:

℞.	Tinct. iodini	gtt. v to xv
	Aquæ dest.	℥v
	Syrupi	ʒvi

M. Sig. A teaspoonful every two hours. It is well to administer a purgative dose of castor-oil or of calomel before using the iodin. This combination of a purgative with the tincture of iodin gives excellent and speedy results.

Diaphoretic.

℞.	Camphoræ	gr. xxx
	Pulv. opii	gr. ½
	Potassii nitratis	gr. iii
	Sacch. alb.	ʒii

M. Sig. Take in a cup of tea before retiring.

—*Von Graeffe, Med. Record.*

Diuretic Pills.

℞.	Pulv. scillæ	
	Pulv. digitalis	
	Caffeinæ, āā	gr. xxx
	Hydrarg. chloridi mitis	gr. v

M. ft. in pil. No. xxx. Sig. Give one three times a day after meals.

—*Practitioner.*

Medicolegal.

Not Necessary to Prove Mental Suffering.—In the case of the Missouri, Kansas & Texas Railway Company of Texas vs. Cox, which the latter party brought to recover damages for injuries sustained by being thrown from the top of the caboose of a freight train, the Court of Civil Appeals of Texas holds that it was not necessary for him to prove that he sustained mental suffering, as the jury was permitted to consider that element of damage as arising from the physical injuries sustained, as shown by the evidence.

Requiring Physical Examination of Daughter.—The Supreme Court of Georgia thinks that it would be going a great length to hold that an action by a father for the loss of services of his minor daughter should be defeated by the refusal of the daughter, who, though not quite 21 years old, was practically a grown woman, to submit her person to a physician for physical examination. Certainly, if, as was alleged in the case of Bagwell vs. the Atlanta Consolidated Street Railway Company, the physician, though eminent in his profession and a thorough gentleman, was distasteful to the daughter, the court says it would be placing on the father, even if she were still under his control, a great and painful burden to require him to coerce her to undergo an examination, or else give up his cause of action. But that was not the case here, for the record showed that the refusal on which the judge's order of dismissal was based was made by the daughter after she had become of age. At that time, the supreme court holds, her father had no right or authority to control her person or her movements. His conduct would have been indefensible, if not criminal, if he had undertaken to compel her, against her will, to allow a physician to examine her. It might be that, if he really desired the examination to take place, he might, by perfectly proper means have induced his daughter to consent to it. But be that as it may, the supreme court goes on to say that it is not prepared to hold that he was in any event bound to pursue such a course. On the contrary, it declares that it has no hesitation in holding that a case should not be thrown out of court because of the conduct of one not a party to it, and who was neither legally bound to obey the plaintiff's orders, nor subject to his custody or control; and so it holds that this case was improperly dismissed. In other words, it holds that an action by a father for the loss of the services of his minor daughter, occasioned by personal injuries, should not be dismissed because she, after reaching her majority, refuses to obey an order of the court in which the action is pending, requiring her to submit to a physical examination of her person by a physician.

Test of Testamentary Capacity.—In the Lawrence will case the appellate division, first department, of the Supreme Court of New York says that there was no question but that the testator was insane in the month of October. The substance of the testimony of the experts in the case was that the testator, on October 16, was in a condition of acute melancholia, with delusions; that the onset of that disease had been of a slow and steady character; and that the condition that he was in at that time was the culmination of a progressive disease, which had continued from four to six months. He made his will May 9. And with only this testimony from which testamentary incapacity could be inferred, the court does not consider that it was shown. It holds that the test was, not whether the testator at the time of the execution of this will was suffering from the disease from which he became insane in October, but whether at the date of the execution of the will the disease had so far progressed that he had not sufficient memory to collect in his mind without prompting, the particulars or elements of the business to be transacted, and to hold them in his mind a sufficient length of time to perceive at least their obvious relations to each other, and be able to form some rational judgment in relation to them, and whether he did intelligently determine to make the testamentary disposition in question, and to execute that intention. Wherefore, being satisfied from the whole evidence that at the time the testator made this will he was able to form an intelligent and rational judgment, and that the will was the result of this intelligent, rational judgment, and carried out his intelligent and rational desire, it holds that the will was properly admitted to probate. Another thing: the court says that the testator, who was at the time of executing the will about 57 years of age, desired very much to be married, but it holds that that certainly was not evidence of insanity or lack of testamentary capacity.

Mental Injury Amounting to Total Disability.—On rehearing, the Court of Civil Appeals of Texas takes a broader view, in the case of the Fidelity & Casualty Company vs. Getzendanner, than it did before, of what mental injury will constitute a total disability, within the terms of an accident policy of insurance which provides for indemnity for such injuries as, independently of other causes, shall immediately and wholly disable the assured from performing any and every kind of duty pertaining to his occupation. It now believes that it was in error in condemning a charge wherein the jury was told that if the injury in question, which was one to the brain, and, as resulting therefrom, unsoundness of mind, immediately and continuously disabled and prevented the assured from performing any and every kind of duty which was materially essential to his occupation in a manner reasonably as effective as it believed the same would have been performed if he had not sustained the injury, then it should find that he had been totally disabled within the terms of such a policy as the above. As it now construes it, such a clause in a policy does not mean that one must be killed, or become totally insane immediately, or totally paralyzed or collapsed, in order to be entitled to the indemnity but only disabled in some manner to the extent that he can not perform some essential duty in the line of his occupation or profession in a reasonably safe, efficient, and profitable manner. And this question of the extent of the disability must always be left to the jury to determine. The occupation of the assured in this case was that of visiting yards and ranches and buying and selling cattle—one in which sound memory and clear, good judgment were essential. So, if the injury to his brain and mind was such as to prevent him from exercising good judgment and drawing correct mental conclusions, in a manner reasonably as effective as he could have done if he had not received the injury, then, the court now holds, he was "wholly disabled," within the meaning of the contract, because upon these qualities of the mind depends the successful performance of the duties of his occupation. If he could not perform these mental functions as well as he did before, but substantially or reasonably as well, then, the court holds, his disability would be only partial, and he could not recover the indemnity. But if he could perform them, though not substantially or reasonably as effective who, it asks, can say that he could perform them rightly and correctly at all. To illustrate further the principle involved, the court asks, among other questions if a doctor's mental balance is lost, and it becomes known that he is not reasonably as accurate and skillful as he once was, though he may be able to visit patients, write prescriptions and diagnose cases with grave and serious mien in the mysterious, technical nomenclature of his profession yet who suspecting his mental disorder, would take his medicine? He would be, it declares, wholly disabled in his profession. Nor does the court find itself alone in the position it thus takes with regard to what constitutes total disability under contracts of insurance. It cites sufficient cases to show the trend of judicial decisions, and, as it expresses it, while the companies have all the time contended for a literal construction, the courts have uniformily adopted a liberal and reasonable one. So it now seems to feel perfectly justified in holding that, as it recapitulates it, if a person is injured mentally to the extent and character that he can not perform some of the essential duties pertaining to his occupation or profession under which he is insured which requires the exercise of a sound mind and good judgment, in a manner substantially or reasonably as effective as he could have done but for the injury then he is wholly disabled, within the meaning of such a contract as this one was, and is entitled to recover the indemnity stipulated for in the policy.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, April 28.

1.—*Contribution to Histopathology of Epidermolysis Bullosa (Hereditaria). (*Concluded.*) George T. Elliot.
2.—*Nitrous Oxid; Ether; Chloroform. S. Ormond Goldan.
3.—*Reply to an Attempted Defense of Antitoxin. J. Edward Herman.
4.—*Relation of Hydrochloric-Acid Secretion to Indicanuria. Allen A. Jones.
5.—*Ethylic Bromid (C_2H_5Br) Anesthesia Preliminary to the Use of Sulphuric Ether. George R. Fowler.
6.—*Diagnosis of Hysteria. Charles W. Burr.

Medical Record (N. Y.), April 28.

7.—*Bottini's Operation for Cure of Prostatic Hypertrophy. (*Continued.*) Willy Meyer.
8.— Past and Present of Refraction. Francis Valk.
9.—*Progressive Pernicious Anemia and Malignant Diseases of the Stomach. Albert Abrams.

Philadelphia Medical Journal, April 28.

10.—*Wesley M. Carpenter Lecture on Infection Through the Tonsils, Especially in Connection with Acute Articular Rheumatism. (*Continued.*) Frederick A. Packard.
11.—*Study of Rectal Valves, Experimental and Clinical. A. B. Cooke.
12.—*Extra-abdominal Shortening of Round Ligaments by an Inch Incision Over the Internal Ring for Freely Movable Posterior Dislocation of Uterus. Augustin H. Goelet.
13.—*Exophthalmic Goiter: Its Complications and Affinities. Roberts Bartholow.
14.—*Some Obstetric Notes. Francis H. Stuart.
15.—*Early Sign of Tuberculosis. Thos. F. Harrington.

Medical News (N. Y.), April 28.

16.—*Some of the Reasons Why the Surgical Treatment of Nasal Disease Has Been Placed on a Conservative Basis. Clarence C. Rice.
17.—*Statistics of One Hundred Cases of Cancer of the Breast and the Results of Operation. Clarence A. McWilliams.
18.—*Cancer Occurring in Acid Parts of Body. A. L. Benedict.
19.—*After-Treatment of Tenotomy. Alexander Duane.
20.— Interesting Case of Syphilis; Epithelioma. L. Blake Baldwin.
21.— New Traction Hip-Splint. James K. Young.

Boston Medical and Surgical Journal, April 26.

22.—*Splenic Pseudoleukemia: Historical Sketch. R. C. Cabot.
23.—*Splenic Anemia. J. L. Morse.
24.—*Splenic Anemia. Henry Jackson.
25.—*Case of Splenic Anemia. J. M. Jackson.

Medical Review (St. Louis, Mo.), April 28.

26.—*Danger from Leprosy. E. S. Goodhue.

Chicago Medical Recorder, April.

27.—*General Symptoms of Brain Tumor and Differential Diagnosis. Archibald Church.
28.— Gynecological and Surgical Observations During a Recent Trip in Europe. A. Goldspohn.
29.—*Roentgen Rays in Treatment of Skin Disease and for Removal of Hair. Wm. A. Pusey.
30.—*Some Therapeutic Observations. Wm. T. Belfield.
31.— Three Specimens of Nematodes Including One Filaria. Wm. A. Evans.
32.— Treatment of Gonorrhea with Silver Salts. Charles D. Lockwood.
33.— Pepto-Mangan ("Gude") in Post-operative Treatment of Gynecologic Cases. Elizabeth A. Riley.

Cincinnati Lancet-Clinic, April 28.

34.—*Ophthalmic Memoranda. David DeBeck.

Medical Bulletin (Philadelphia), April.

35.— Tertiary Syphilis. J. V. Shoemaker.
36.— Relation of General Practitioner to Specialist in Ophthalmology. T. E. Conrad.
37.— Value of Tannigen in Diarrhea. George A. Hewitt.

International Journal of Surgery (N. Y.), April.

38.— A Few Important Factors in Causation of Diseases of Women. Ralph Waldo.
39.— Regional Minor Surgery. (*Continued.*) George G. Van Schaick.
40.— Some Excerpts and Deductions from Records of Gynecological Cases. James N. Martin.
41.— Exomphalos and Strangulated Femoral Hernia, in My Own Experience. Thomas H. Manley.
42.— Treatment of Fractures. W. L. Estes.
43.— Introductory to Mechanical Diagnosis and Treatment of Urethral Diseases. Ferd. C. Valentine.
44.— Technique of Surgical Gynecology. (*Continued.*) Augustin H. Goelet.
45.— Uterine Myoma—Appendicitis. Robert T. Morris.

American Journal of Obstetrics (N. Y.), April.

46.—*Dermoid Cystoma of Pelvic Connective Tissue: With Report of Case. Henry D. Beyea.
47.—*Hysterectomy for Acute Septic Metritis and Peritonitis. Egbert H. Grandin.
48.— Abdominal Hystero-Salpingo-Oöphorectomy by New Method for Multiple Fibroids of Uterus, Fibroids of Ovary, Congenital Malformation of Vagina, etc. J. Coplin Stinson.
49.— Nephro-Ureterectomy. George H. Noble.
50.—*New Method of Treating the Ureter in Tubercular Disease of Kidney and Ureter. Wm. R. Pryor.
51.—*External Palpation Versus Vaginal Examination in Normal Labor. Wm. M. Sprigg.
52.—*Remarks on Operative Treatment of Prolapse. John B. Deaver.
53.— Two Cases of Extrauterine Pregnancy. John G. Clark.
54.— Death after Operation Possibly due to Unsuspected Interstitial Hepatitis. I. S. Stone.

American Gynecological and Obstetrical Journal (N. Y.), April.

55.—*After-Treatment of Peritoneal Section. Henry T. Byford.
56.—*Mortality Resulting from Abdominal Section for Pus in Pelvis. I. S. Stone.
57.— Management of Puerperal Infection. Frederick W. Sears.
58.—*Cranio-Rhachischisis. Henry F. Lewis.
59.— Spontaneous Amputation of Both Fallopian Tubes. Emil Ries.
60.— Review of Non-Operative Treatment of Certain Pelvic Inflammatory Lesions. J. G. Clark.
61.— Some Observations on Intubation of Larynx by O'Dwyer Method, Based on Seventy-five Cases. J. W. West.

Pediatrics (N. Y.), April 1.

62.— Injuries of Nerves due to Fracture. Charles Greene Cumston.
63.— Ophthalmia Neonatorum. J. A. Day.
64.— Night Terrors. Francis Huber.
65.— Case of Mitral Regurgitation and Pulmonary Obstruction. Augustus A. Eshner.

Merck's Archives (N. Y.), April.

66.— Adonidin: Physiologic and Medicinal Properties. Heinrich Stern.
67.— Clinical Uses of Ichthalbin. A. G. Servoss.
68.—*Use of Guaiacol in Malaria. Charles J. Whalen.
69.— Preparations of Mercury. Virginius W. Gayle.

Medical Register (Richmond, Va.), February.

70.—*Indications for and Method of Operating on the Middle Turbinated Bone. John P. Davidson.
71.—*Have We a True Nerve Tonic? Robert F. Williams.
72.— Infantile Septicemia: Report of a Case. B. M. Randolph.
73.—*Value of Hydrogen Peroxid in Treatment of Cutaneous Affections. F. H. Beadles.
74.— Disease of Spine. A. B. Greiner.

Maryland Medical Journal (Baltimore), April.

75.—*Present Status of Appendicitis Question. Hugh H. Young.
76.— Eosinate of Methylene Blue as Blood-Stain. Charles E. Simon.
77.— Two Unusual Cases of Annular Syphilides in Negroes. T. Caspar Gilchrist.

Memphis Medical Monthly, April.

78.—*Obstipation. Hypertrophy of the Rectal Valve. Thos. Chas. Martin.
79.—*Abscess of Liver, with Report of Case. E. M. Holder.
80.— Antipyretics. Their Rational, Scientific and Practical Use. F. D. Dale.
81.— Aortic and Mitral Regurgitation. A Clinical Lecture. Frank A. Jones.
82.—*Surgery of the Biliary Calculi. Wm. D. Haggard, Jr.
83.—*Some Points in Pelvic Surgery. A Rectal Curiosity. Case Report, with Photograph. John L. Jelks.
84.— Case of Tuberculosis of Epiglottis. Richmond McKinney.
85.—*Cholera Infantum. Its Practical Treatment. A. T. Dickson.
86.— Seven Cases of Leucorrhea Treated with Tyree's Antiseptic Powder. A Clinical Report. Edwin Williams.

Illinois Medical Journal (Springfield), April.

87.— The Present Law. J. W. Pettit.
88.— Physician and Medical Law. Hamilton C. Kibbie.
89.—*Drainage and Irrigation of Pleura in Empyema. Conflict of Methods and Opinion. Edmund Andrews.
90.— Ambulatory Treatment of Fractures. Chas. D. Lockwood.
91 — Heredity. John Ross.
92.— History of an Outbreak of Rabies, with Clinical Report of a Case in Human Subject. James S. Mason.
93.— Direct Massage in Treatment of Glaucoma. J. A. Pratt.
94.— Erythromelalgia, or S. Weir Mitchell's Disease. W. J. Eddy.
95.— Mastitis in Puerperal Women. Theodore Thompson.

Occidental Medical Times (San Francisco), April.

96.—*Typhoid Bone Lesions. Herbert C. Moffitt.
97.— Some Remarks on the Widal Test. William Ophüls.
98.— Treatment of Typhoid Fever. R. W. Baum.
99.—*Surgical Treatment of Typhoid Fever. F. B. Carpenter.
100.— Litholapaxy, with Report of Case. G. A. Hare.
101.— Alcoholic Insanity. Mark F. Toner.
102.— Some Diseases of Tonsils. D. H. Trowbridge.
103.—*Zoster Ophthalmicus, with Paresis of Facialis. D. W. Montgomery.
104.— Diphtheria. A. R. Nicholson.

Cleveland Medical Gazette, April.

105.—*Diagnosis and Treatment of Congenital Dislocation of Hip. Wm. E. Wirt.
106.—*Fragmentary Observation of Prognosis of Brain Syphilis. Charles J. Aldrich.
107.— Cases Illustrating the Efficacy of Hydro-Therapeutic Measures. Christian Sihler.
108.— Report of Case of Ovarian Cyst with Twisted Pedicle. Frank E. Bunts.
109.— Operation for Perforated Typhoid Ulcer Eighteen Hours after Perforation. Wm. E. Lower.

Carolina Medical Journal (Charlotte, N. C.), April.

110.—*Simple Operation for Rectocele and Repair of Vaginal Outlet. H. S. Lott.
111.— Case of Placenta Previa, with Happy Termination. J. D. Roberts.
112.—*"The Bête Noire" Cough and its Treatment. W. Peyre Porcher.
113.— Radical Operation for Cure of Chronic Suppuration of Middle Ear. E. R. Russell.
114.— Cases of Angio-Neurotic Edema. J. Steven Brown.

115.— Report of a Case. Wm. P. Shuler.

Canadian Practitioner and Review (Toronto), April.

116.— Case of Hysteria, with Remarks. J. T. Fotheringham.
117.—*Successful Treatment of Three Important Cases of Disease of Eyes by Combined Method of Hg and KI internally and Pilocarpin Hypodermically. G. Herbert Burnham.
118.— Repair of Old Lacerations of Pelvic Floor. M. L. Harris.
119.— Antistreptococcus Serum in Measles. M. Edgar Gillrie.

Western Medical Review (Lincoln, Neb.), April 16.

120.— Medical Legislation: Its Relation to Laity and Medical Profession. R. Harvey Reed.
121.— Floating Kidney. Charles C. Allison.
122.— Some Causes and Results of Auto-Intoxication. J. H. Nicol.
123.—*Acute Suppurative Arthritis of Children. James E. Moore.
124.— Derangements due to Pregnancy. Charlotte G. Hawk.
125.— Case of Fibroma Uteri. D. W. Basham.
126.— Abortion. (*Continued.*) A. D. Wilkinson.

Medical and Surgical Monitor (Indianapolis, Ind.), April 15.

127.— Essentials of Success. E. E. Montgomery.
128.— Report of Case of Fibroma of Neck. J. A. Sutcliffe.
129.— Report of Case of Intestinal Obstruction. E. L. Larkins.
130.— Ocular Complications of Variola. Geo. F. Keiper.

Georgia Journal of Medicine and Surgery (Savannah), April.

131.— Why are Doctors Often Failures? J. G. Carpenter.
132.—*Report of 1371 Cases of Tuberculosis Treated in Asheville Climate. James A. Burroughs.
133.— Irregular Case of Cerebrospinal Meningitis. Wade H. Atkinson.
134.— Astringent Medication in Intestinal Catarrhs of Children. Carl Tittel.
135.— The Southern Negro: His Recent Erotic Tendencies; Causes; Suggestions as to Prevention. S. C. Baker.

Medical Dial (Minneapolis, Minn.), April.

136.— Symptoms and Diagnosis of Smallpox. J. W. Macdonald.
137.— Relation of Varicella to Variola. David O. Thomas.
138.— Prophylaxis and Treatment of Variola. Chas. Nootnagle.

New England Medical Monthly (Danbury, Conn.), April.

139.— Muscular Abscess in Right Inguinal Fossa Opening Appendicitis. J. A. Hopkins.
140.— Notes on Uricacidemia. J. Lindsay Porteous.
141.— "General Practice Including Surgical Work." J. C. Sexton.
142.— Chemical Action a Vulnerate Force in Destruction of Partial Destruction of Limb; Gangrene from Frost-bites. Thos. H. Manley.
143.— Dietetic Treatment of Wasting Diseases. W. H. Murray.
144.— Nerve Depression Following Acute Affections. J. S. Moreman.
145.— Treatment of Gonorrhea and Other Purulent Inflammations with Mercurol. I. W. Short.
146.— Case of Fatal Tachycardia at Menopause. Willard Gillette.
147.— Observations on Treatment of Strangulated Hernia, its Complications and Sequelæ. (*Continued*,) J. Coplin Stinson.

Toledo Medical and Surgical Reporter, April.

148.— Eczema. Wm. Wickham.
149.— Peripheral Irritation in Infantile Convulsions, with Report of Case. W. V. Anderson.
150.— Diphtheria. A. J. Girardot.
151.— A Perrinent Question. Pearce Prentiss.
152.— Hygienic Construction of Dwellings. Agnes M. Gardiner.
153.— Therapeutic Value of Cod Liver Oil. J. D. Ely.

Medical Times (Philadelphia), April.

154.— Review of Potence and Impotence, Physiology, Pathology and Other Embarrassments of Procreating Powers. Review of Aphrodisiacs of Past and Present. Sexual Hygiene in Married and Single Life, etc., etc. "Fecondite" (Zola) and "Kreutzer Sonata" (Tolstoi). (*Continued.*) John J. Caldwell.
155.— Compound Dislocation of Elbow-Joint. C. S. Parkhill.
156.— Action of Urotropin in Uric Acid Diathesis. Arthur Nicolaier.

Oklahoma Medical Journal (Guthrie), April.

157.— Hemorrhoids. L. A. Riely.

AMERICAN.

1. **Histopathology of Epidermolysis Bullosa.**—In this conclusion of his memoir, Elliot reports histologic findings of skin taken from apparently healthy as well as diseased portions. The morbid changes are illustrated. The process seems to be a degeneration of the cells in certain portions of the epidermis, resulting in a molecular death of the nucleus and protoplasm of the cell body. The individual is born with a congenital irritability of the vascular supply of the skin, which responds abnormally to irritation and produces these degenerative changes. Whether there is also a congenital instability of the cells themselves, he is not prepared to say. His older view as to the condition being a dermatitis, he now rejects, and he believes that the prime feature in the process is an acquired or hereditarily exaggerated irritability of the cutaneous vascular system.

2. **Nitrous Oxid, Ether, Chloroform.**—Goldan describes the requirements of an ether inhaler, and criticises the ordinary method of administering. The inhaler should be simple, easily cleaned, capable of being used as an open or closed one, inexpensive, so fashioned as to use the smallest quantity consistent with perfect anesthesia, with no sponges, but fresh gauze for each case; it should have large air-passages, so as not to impede the respiration, no useless complicated ether and air contrivances, and a rubber bag of the fullest respiratory capacity. He describes and illustrates the one he thinks meets these requirements and lays down the rules for its use. The patient should be encouraged to breathe deeply, and the head should be slightly extended on a direct line with the body, and turned fully to one side, which position has the advantage of affording better drainage for the mucus and saliva, while the tongue will fall to one side instead of backward or on the epiglottis. The head correctly placed, should remain so through the operation. There should be no forcing of the inhaler on the patient, but it should be gently applied, removed, and reapplied, impressing on the patient at the time that it is perfectly safe. After anesthesia is complete, it should be removed, but there is no absolute rule as to the length of time the patient's face should be uncovered; this varies for each case. For chloroformization, he would have a rearrangement of the parts of the inhaler; the important point is that there should be a free mixture of air, the patient should not be encouraged to breathe deeply, and the chloroform should be begun drop by drop, at first very slowly. Chloroform vapor is heavy and falls, and the old practice of pouring ʒi to ℥i on a mask and encouraging the patient to breathe deeply is probably responsible for many deaths. The degrees of anesthesia are described, and the various reflexes in the order of their disappearance; the ciliary, corneal and conjunctival reflexes, deglutition, pharyngeal and laryngeal reflexes, vomiting, the anal, the vaginal, and the uterine reflex. His practice is to keep the finger on the pulse throughout the narcosis, preferably on the temporal artery, and the possible anomalous conditions should be kept in mind. The pupil dilates at the commencement and contracts when anesthesia progresses or is moderately dilated. Its sudden dilatation may indicate dangerous or incomplete anesthesia. The pupil is not always a reliable guide; other symptoms should be watched in addition. The condition of the skin, the respiration, etc., must be watched.

3. **Antitoxin.**—*Herman replies to a recent paper by Dr. A.* Robin, who criticised his former articles which endeavored to show, by statistics, that antitoxin is a failure.

4. **Indicanuria.**—The relation of hydrochloric acid secretion to indicanuria is discussed by Jones, who analyzes a series of cases which he divides into four classes: 1. Those showing free hydrochloric acid with no indican present. 2. Those showing both present. 3. Those showing neither present. 4. Those showing no free hydrochloric acid but indican present in the urine. From an analysis of these cases and consideration of the facts in regard to the stomach secretion, he concludes that other means than free hydrochloric acid must be depended on to prevent formation of indican in the intestine. It would appear that so long as sufficient hydrochloric acid is secreted by the stomach to satisfy the nitrogenous elements and allow them to pass through the various steps of the cleavage in pepsin-hydrochloric acid digestion, excessive putrefaction is not likely to arise, even if sufficient hydrochloric acid is not secreted in a free state, that is in a normal or almost normal acidity of the gastric contents. When the total acidity is gradually reduced, putrefaction is likely to occur. He finds that excessive indican is more apt to be associated with obstruction in the small intestine than in the large, and it is also found with gastric ulcer where there is a great amount of free hydrochloric acid in the stomach. It has been associated more particularly with inflammatory states of the intestine. If the albuminous constitutents of the food undergo digestion in the intestine, they do not putrefy, and in many cases indicanuria must be looked on as an index to the adequacy of intestinal digestion without regard to the state of the stomach.

5. **Ethylic Bromid.**—The use of ethylic bromid—C_2H_5Br—as a preliminary to ether anesthesia is recommended by Fowler, who reports a case. He places ʒi to ʒij of ethylic bromid on the inhaler, and, in from thirty rty-five onds, acording to the freedom with breathes, the administration of the su is

without changing the inhaler, and proceeded with as in ordinary ether anesthetization.

6. **Diagnosis of Hysteria.**—The practical importance of the diagnosis of hysteria from organic disease of the nervous system is self-evident, both for the physician and the patient. The leading points are given by Burr: The diagnosis is necessarily by exclusion, and the negative elements are as important as the positive. The mode of onset and combination of symptoms are to be noted. Sometimes the nature of the symptom itself may indicate the real nature, and anesthesia is important in this regard. It, however, is not always present; there is no one pathognomonic symptom of hysteria. There may be hyperesthesia, and he points out some conditions in which it may occur. The diagnosis of the fit may be difficult or easy. Palsy, which seems to follow it, is not of diagnostic value. There is one type of flaccid palsy which is seen only in hysteria. In this, though there may be complete loss of voluntary movement, the patient is able to keep the palsied extremity in any position in which it is passively put. The other symptoms of diagnostic value are noted. One symptom is important as distinguishing hysterical paraplegia with contracture from organic disease. In the latter the muscular spasm is extensor and lessens with flexion.

7. **Bottini's Operation.**—Meyer gives the details as to the preparation of the patient, the instruments employed, the *modus operandi* and the after-treatment. He favors filling of the bladder with sterilized boric acid water, and believes that the Lewin experiments indicate the dangers of dilatation by air. The length of the incision, indications, etc., are also fully discussed. The paper appears to be a very complete handling of its subject, and is to be concluded in a subsequent issue.

9. **Progressive Pernicious Anemia and Malignant Disease of the Stomach.**—After reporting two cases, Abrams formulates the following conclusions: 1. Arsenic is a true specific in pernicious anemia, and is as certain in its immediate results as is mercury in syphilis, quinin in malaria, or iron in chlorosis. The specificity of arsenic is so great that in no case of grave anemia are we justified in excluding the progressive pernicious variety, even though the blood examination is negative, without a heroic trial of arsenic. Like the other specifics, it produces relative cures and can not be regarded as a prophylactic, owing to the frequent relapses. It may be given as Fowler's solution, beginning with three-minim doses well diluted after each meal, and increased by one or two minims daily according to the urgency of the case, until twenty-five or thirty minims are taken three times a day. A safer rule is to push it to the point of toleration and maintain it at this point until the blood examination shows the results desired. The appearance of its physiologic effects—edema and itching of the eyelids, gastro-intestinal irritation, etc.—is a signal for its temporary discontinuance. When arsenic can not be given by the stomach, it may be administered subcutaneously or even by the rectum. 2. In association with arsenic, assimilable food and rest are indispensable. 3. The use of intestinal antiseptics in this as well as in other diseases is a mere therapeutic refinement not sanctioned by bacteriologic reasons, and they ought, therefore, not to be employed as a routine measure. In the Italian literature one finds some authentic evidence of the good effects from thymol, its administration being suggested by the theory that pernicious anemia is caused by intestinal absorption of products which are destructive to the red blood-corpuscles. 4. Iron is not only useless but is apt to create digestive disturbances. 5. Bone-marrow is said to be curative, but it induces nausea and aggravates existing gastro-intestinal troubles. 6. Gastric disturbances suggest stomach lavage. The character of the food ingested must be determined by the results of a chemical analysis of the stomach contents. 7. To counteract the great reduction in the quantity of blood weak saline solutions may be given by the colon or preferably in the subcutaneous tissue. 8. Relapses are best prevented by minute attention to dietetic and hygienic details.

10. **Infection Through the Tonsils.**—In continuing his article (see last week's Journal, ¶ 2, p. 1120), Packard reviews the literature as to the possibility of chorea, nephritis, abscess, rheumatism, etc., originating from tonsillar infection. The paper concludes with an extensive bibliography of the past ten years.

11. **Rectal Valves.**—Cooke first gives the history of the discovery and recognition of these valves, and states, as his own opinion, that he is prepared to fully endorse Martin's conclusions as to their existence. He points out the possible fallacies in examination for them. Their action in the production of disease is next discussed, and he considers that they are responsible for a considerable proportion of chronic obstipation, or obstruction of the bowels in the lower section, as distinguished from constipation. The treatment is almost invariably operative, as the condition is rarely diagnosed in its early stages. The radical operation consists in incising the valves' free margin down to the muscular coat. He cautions as regards the operation; though apparently easily borne if properly performed, it is one of the most delicate operations in surgery. The part they play in strictures and rectitis is also discussed, and he reports five cases illustrating the value of the proctoscope and the more common forms of lesions of these valves.

12. **Shortening of Round Ligaments.**—Goelet describes a method of shortening which he considers has special advantages. The technique is described in full.

13. **Exophthalmic Goiter.**—Four cases, uncomplicated and with special complications, are reported by Bartholow. He calls attention to the purely functional character of some of the similar types. As regards the treatment, he thinks galvano-faradism is the most efficient agent. He has usually applied the descending stabile current so as to include within the circuit the pneumogastric and cervical sympathetic nerves, and in cardiac cases much good is derived from spartein sulphate and picrotoxin, which may be combined with sulphates of iron and manganese. In more chronic cases with valvular lesions and degeneration of the thyroid and the skin pigmented, the best results are had from the combined solution of iodid and bromid of sodium and arseniate of sodium. As to hygienic management, he recommends non-exhaustive systematic exercise, moderate mental occupation, and thinks close confinement, as in the rest cure, is damaging.

14. **Obstetric Notes.**—The three points considered are preparation of the patient for labor, in which Stuart suggests careful examination in the later months, also uranalysis and instruction as to asepsis. The time to use forceps may vary, but should usually be early in cases where there is exhaustion of the uterine muscle or disproportion preventing molding and adjustment and persistent occipito-posterior position. As to repair of the injuries, he has found it of advantage to postpone it until a convenient hour in the first or second day after the operation. For intestinal sutures he would use small-sized catgut, and be sure to include enough tissue in the grasp of the sutures. For external sutures, silkworm gut, iron-dyed, is preferred.

15. **Tuberculosis.**—An early sign referred to by Harrington is a widely dilated state of the pupils, not paralytic but apparently due to some irritation, possibly systemic. He has come to associate this with early tuberculosis.

16. **Nasal Disease.**—Rice reviews the conditions of nasal disease, in which formerly a lesser degree of conservatism prevailed as regards operative interference than is now coming to be the rule; he also shows how we are learning to distinguish between the need of operation and the utilizing of the facts for the benefit of the patient. The one thing that he thinks would justify his paper is that we are beginning to recognize the influence of alcohol and tobacco.

17. **Cancer of Breast.**—A summary of the analysis of 100 cases of this affection is given by McWilliams. Trauma was present in 44.6 per cent. of the patients, 74 per cent. were married; 66.6 per cent. had borne children, the average number to each, 5; pain was present in 56.2 per cent.; nipple retracted in 45.2 per cent.; right breast involved in 51 cases, left in 49; axillary glands palpable in 48.9 per cent., cancerous by the microscope in 78.6 per cent. The average age was 49 years, 6 months, 26 days. The mortality of operation was 4 per

cent.; average length of time in hospital, 20 days; prolongation of life for one year resulted in 59 per cent., for two years in 36 per cent., and the cured—no recurrence at end of three years—34 per cent. Recurrence took place in one year in 21, in two years in 28, locally in 15, in the lung in 6. The average length of time in recurrent cases from operation to death was 1 year, 2 months 20 days, that from the period of recurrence to death, 5 months.

18. **Cancer Occurring in Acid Parts of Body.**—The relative frequency of primary cancer of the stomach as compared with that of the bowels and certain portions of the latter as compared with the mass is significant. Benedict has studied the subject and finds that a great majority of cancers develop in the acid media of the body. He points out that the localities where the natural secretions are acid are elective points for the affection, e. g., the stomach or uterus, and that in other regions where it is liable to occur, the abnormal acidity is possible and frequent. Whether the reaction is the determining factor or not, he does not pretend to state.

19. **Tenotomy.**—The after-treatment of tenotomy, preferred by Duane, is to utilize the directive force of the eyes themselves, and if necessary, by suitable exercises, to gradually substitute a more accurate correction for the approximate one produced by operation. He gives details of treatment advocated, and is so convinced of the value of the results that he regards the technique of the operation of subordinate importance. By the latter we can set the eyes fairly straight and in a position in which, being left free to move, they themselves will work toward an absolute correction. Therefore it makes little difference how we do a tenotomy, but much how we treat the eyes afterward.

22. **Splenic Pseudoleukemia.**—Cabot suggests that we should either abandon the term "splenic anemia," or else take up that of "lymphatic anemia," as applied to the association of lymphatic enlargement with impoverished blood. Or if we agree with Osler that there is no relation between enlargement with the same condition, we ought to make a sharp distinction between the two varieties of leukemia. In going over the literature, it is difficult to separate the forms here considered and those cases due to malaria, syphilis, etc. He gives the diagnostic points. The prognosis, according to Osler, seems to be relatively favorable, though writers differ on the subject. The operation of splenectomy is rational and seems to have been of advantage in one of Osler's cases.

23, 24 and 25. **Splenic Anemia.**—Morse reports two cases with the findings from blood examination, in one the disease may have been of syphilitic origin; the other was probably a relic of some infantile condition, as anemia with splenic enlargement is not uncommon in infants and especially common in rickets. Henry Jackson reports on the only case found in the Boston City Hospital, and he thinks very few if any patients with splenic anemia have entered it. He suggests more careful observation on this point. Another case is reported by J. M. Jackson and Hill, from the out-patient department of the Massachusetts General Hospital.

26. **Danger From Leprosy.**—According to Goodhue, the danger from leprosy in this country is to be found in the general neglect to watch for and isolate patients. It is therefore greater from our home foci in Minnesota and Louisiana, and from over the border in Mexico and Canada, as well as from tropical regions generally, than it is from our new possessions, especially Hawaii, where it is under close observation and well guarded against. If the fancied danger from leprosy from Hawaii is going to arouse us to the real danger of leprosy in our midst, it would be another of the many advantages of annexing the islands.

27.—See abstract in The Journal of April 7, p. 873.

29. **Roentgen Rays in Skin Disease.**—Pusey calls attention to the value of the Roentgen rays for the purpose of epilation and in the treatment of eczema, lupus, etc. The practical points to be noticed are to avoid too great strength or tension of current, too long or frequent exposures or too close proximity to the skin. At the beginning the sittings are not longer than five minutes, and the distance not less than 12 cm. The current. not more than 1.5 amperes and 12 volt strength, should be employed. The ordinary skiagraphic currents are not desirable. Suitable lead masks for protecting contiguous surfaces should be used, and the personal idiosyncrasy must be looked after. The evidence that exposures have been carried far enough are: 1. Appearance of erythema and pigmentation. 2. Blanching of the hair. 3. Loosening of the hair. In the treatment of hypertrichosis great care should be used to avoid irritation and, in inflammatory disorders this is not so important, as a slight degree of inflammatory reaction is desirable, but it should be held at this point and not be carried to a painful degree.

30. **Some Therapeutic Observations.**—Belfield reports three cases of the use of gelatin as a hemostatic in persistent hemorrhages, in two of which there was complete success, in the third unequivocal failure. He would, in view of Bauermeister's experiments, refrain from using these injections in extensive nephritis. He also reports two cases of tumor of the breast due to syphilis, which was diagnosed as carcinoma, and he would impress on all his patients the idea that syphilis is not curable as a rule, and that subsequent, obscure or refractory disease should have specific treatment. He also mentions a case of the successful use of carbolic acid in a case of tetanus.

34. **Ophthalmic Memoranda.**—DeBeck reports several cases of eye trouble, among them one of gouging in a fight where he inserted a glass ball in the empty eye socket for cosmetic purposes, with good results. The patient afterward wore an artificial eye with the most satisfactory deceptive effect. He thinks it the only case in which an artificial vitreous has been inserted in a traumatic case twenty-four hours after injury, with success. Another instance reported is that of complete enucleation of the eye by a jet of water from a nozzle connected with two lines of hose by a Siamese coupling. The nozzle got away from those handling it, and the jet struck the man squarely in the face, at a distance of three or four feet, and no trace of the eyeball could be found. It was completely enucleated by the water. The patient made a satisfactory recovery. He also reports other cases of interest.

46. **Dermoid Cystoma.**—A case of dermoid cystoma is reported by Beyea, who gives a very thorough discussion of the subject. In his case he finds it in no way associated with the ovary. The literature of the condition is thoroughly worked up.

47. **Acute Septic Metritis and Peritonitis.**—Grandin finds that while a great majority of patients with puerperal infection recover with minor operation, about 1 per cent. die, notwithstanding operative treatment, unless it is employed early. The importance of early diagnosis, therefore, is clear. When septic symptoms appear in the puerperium, the patient should be most thoroughly examined, preferably under anesthesia, to differentiate saprophytic and streptococcic infection. Sapremia yields to local operative treatment, unless too long delayed or complicated by streptococcic infection. When the clinical phenomena are of low grade, and the pulse rapid in proportion to the temperature, it is a warning of general systemic infection. Sapremia having usually been ruled out and other disturbances such as pneumonia, urinary toxemia, etc., being excluded, exploratory abdominal section is indicated for positive diagnosis. By this it is possible to remove the infectious foci, before the system has been involved and the case become hopeless. The streptococcus infection, however, is so rare that it is only exceptionally that abdominal section is required.

50. **Surgery of the Ureter.**—Pryor describes a case of tubercular dermatitis and nephritis in which he had to remove the right kidney, and after enucleating the ureter, he inverted it into the bladder as is sometimes done with the appendix in the bowel. This was done by passing a long surgical probe into the bladder and through the ureter, suturing it to the end of the severed ureter. It was then drawn back into the bladder, inverting the tube. The ureter sloughed off and the probe was withdrawn the third week. Cystoscopy [illegible]ly showed all traces gone except a slight elevation [illegible] of the ureter. The convalescence was normal.

51. **External Palpation Versus Vaginal**

—Sprigg reviews the conditions of labor and mentions that to conduct a case ideally, having previously excluded the existence of deformity and abnormalities, the progress of labor must be observed by extravaginal methods, and after delivery nothing must be permitted to enter the vagina.

52. **Prolapsus Uteri.**—Deaver condemns the Alexander operation and intra-abdominal shortening of the round ligaments and vaginal hysterectomy unless there is a pathologic lesion warranting it; he advises ventral fixation. When the prolapse is complete, anterior or posterior colporrhaphy, or both may be necessary. "The cystocele is corrected by the removal of a sufficiently large oval flap, denuding the mucous membrane and submucous tissue, by which the muscular coat of the bladder is exposed. The incision extends from immediately behind the meatus urinarius to the cervix uteri. Two rows of catgut sutures appose the edges of the incision, the deeper taking the submucous and the muscular coats of the bladder, and the superficial the mucous membrane. The denudation of the anterior vaginal wall in the correction of the cystocele, and of the posterior vaginal wall in the repair of the torn or reflexed pelvic floor, is made with a scalpel. The repair of the anterior vaginal wall is the first step in the operative technique; when this is accomplished the rubber gloves worn are discarded and a new pair, previously sterilized, put on. The next step is the ventrofixation, and, lastly, the perineum is restored.

55. **After-Treatment of Peritoneal Section.**—The after-treatment recommended by Byford consists of the use of 4 drams of fluid extract of cascara, or some equivalent, two hours before operation, and dram doses of sulphate of magnesia every hour after the patient awakes from the anesthesia; a high glycerin and water enema—℥ij to iv—every two hours after. A high glycerin enema was given before the patient left the table after operations in which the adhesions were separated and raw surface left. A prompt movement of the bowels and free passage of flatus not unfrequently resulted before the others were given, hence he began to give it as a routine practice. As he stated in a former paper, this treatment must as a rule not be discontnued until the patient passes flatus, not only with the enemas but also frequently between them, i. e., efficient peristaltic action should continue at intervals. Means should also be taken to maintain frequent peristalsis and a daily evacuation of the bowels after the first day, and he frequently gives two drams of sulphate of magnesia or two or three ounces of Hunyadi water night and morning for two weeks, regulating the doses according to the effects.

56. **Mortality From Abdominal Section.**—Stone concludes his article as follows: 1. The abdominal route may be selected in the vast majority of "real pus cases," because it not only gives a better opportunity to deal with diseased pelvic structures, but also facilitates the inspection of the abdominal viscera and the relief of any pathologic condition of these organs. 2. The vaginal route is still used by the writer as occasion demands, as when a "pelvic" abscess is pointing in the vaginal vault. 3. In the majority of cases, then, abdominal section is advised; still, in a certain small number, vaginal puncture, and in a third class, when the abscess is large and situated "high" in the pelvis, it is reached through the abdomen, evacuated and drained without attempting "enucleation" if the patient is evidently too much exhausted to bear a radical operation. In short, pus should be sought for and evacuated from that quarter which gives the easiest approach and speediest and safest exit consistent with the present condition of the patient, and having in view her permanent restoration to health.

58. **Cranio-Rhachischisis.**—Under this head Lewis describes a number of interesting cases of the defective closure of the cranium, with illustrations.

68. **Guaiacol in Malaria.**—Whalen reports the subsequent history of some cases previously reported, with several additional ones. In all his ideas in regard to the benefit of the drug, in cases where quinin fails, as expressed in an article abstracted before (see The Journal of March 10, ¶ 47, p. 356) are confirmed by these later experiences.

70.—This paper has appeared elsewhere. See The Journal of April 14, title 41, p. 924.

71. **Have We a True Nerve Tonic?**—Williams gives the results of his experience with various drugs as nerve tonics, and concludes as follows: 1. For long-continued use in conditions of weakened nerve power, strychnin, arsenic, phosphorus, and the hypophosphites are unsuitable on account of the ultimate depressant effect which their continued use may occasion. 2. In the glycero-phosphates we have preparations so nearly identical with the natural phosphorus compound of nerve substance as to be more readily appropriated by depressed nerve tissue than any other phosphorus preparations. 3. This near identity of the glycero-phosphates with lecithin, and the absence of nerve stimulation produced by their administration, render them true nerve tonics. 4. The success of those of the profession who have used these preparations entitles them to trial by the profession generally.

73. **Peroxid of Hydrogen.**—The use of this is recommended by Beadles in the following conditions: eczema, which may be sometimes aborted by prompt treatment; impetigo contagiosa; lichen planus, in which no other drug gives such good results; tinea versicolor; tinea circinata; chloasma; freckles and bromidrosis.

75. **Appendicitis.**—Young gives a review of the general literature of appendicitis and of the opinions of surgeons in regard to the question it involves. There is a general agreement as to the mortality of the severe, acute cases and the successful outcome of mild ones without treatment, the safety of operation during intervals, and the frequency of relapses, but on other points there seems to be a large range of opinion. The general tendency, however, on the whole, would appear to us to be more conservative than radical, as opinions go on this subject. There is need, as he points out, of exhaustive statistics on these points. The paper is followed by a symposium of communications from various physicians and surgeons in regard to the indications for operation and its favorable moment.

78. **Obstipation.**—The chief symptoms of obstruction and abnormal conditions of the rectal valves are difficult and unsatisfactory straining at stool, with occasional diarrhea and flatulence and borborygmus, and later attacks of intestinal intoxication and neurasthenia. The pathogenesis may be a normal increase of fibroid tissue from any cause. The diagnosis is easily made with the proctoscope. The operation is described and the amount of incision of the valves is estimated by inserting the hook beyond it and drawing it down toward the operator until the presence of the end of the hook shows in the form of a blanched eminence; and in the operation of division the valve should be transfixed at a point considerably nearer the free margin than the estimated position of the eminence. The valve should then be seized by a tenaculum on either side of the point selected for the section, the knife made to transfix the fibrous border of the valve and divide a few fibers of this tissue and the mucous membrane covering it, by cutting its way through the free border of the valve. This should be transfixed with the bistoury at a moment when the valve is situated at a right angle to the wall of the intestine. If the valve be pulled downward by means of the tenaculum, so that it presents an inclined plane toward the operator at a moment when the bistoury is made to transfix the conjoined tendon, the superior dense fibrous lamina will have a tendency to force the knife outward and through the wall; hence the necessity of a proctoscope of a special length for each valve, that its end may be carried to the valve instead of the latter being pulled down to the protoscope. But a few fibers of the conjoined tendon are to be divided by this bistoury. After the incision is thus started a scalpel-like knife, provided with a similarly built handle, should be used to deepen the incision. In some cases the valve should be cut in two places. The instant the conjoined tendon is divided a gaping wound will be presented to the eye. This wound-cavity is irregularly pyramidal and open at its apex; the two walls running away from the apex consist of the fibrous laminæ of the valve; the base is made up of the uncut circular muscular fibers; external to the circular muscular fibers are the longitudinal muscular and peritineal coats of the rectum, which this technique fortifies against accidental injury.

79.—See abstract in The Journal of Dec. 2, 1899, p. 1420.

82.—Ibid., Dec. 23, 1899, p. 1614.

83.—Ibid., Dec. 2, 1899, p. 1421.

85.—Ibid., p. 1420.

89. **Empyema.**—The contrary views as to the value of drainage and irrigation in empyema are noticed by Andrews, who tabulates the authorities as they have expressed their views in favor of incision, drainage, irrigation and resection of ribs. He considers intercostal incision safer than resection in most cases, especially in children, but not sufficient for every sort of case. As regards irrigation, his experience has been that by avoiding toxic substances, using only warm boric acid solution, small and weak at first and gradually increased, poisoning and shock can be avoided and bronchial fistula discovered before dangerous flooding has taken place if care is used with small quantities at first. The most frequent necessity for resection is in case of old cavities with strong cicatrices, preventing expansion of lungs and whose granulations are not strong enough to fill the space. In these cases we should sacrifice the ribs to let the thoracic walls fall in and fill the cavity. In cases where there is a pseudomembranous lining of the pleura it can be eventually washed out mechanically if a large tube is used.

96.—See abstract in The Journal of March 24, p. 750.

99.—Ibid., p. 751.

103.—See abstract in The Journal of March 31, p. 815.

105. **Congenital Dislocation of Hip.**—After giving ten cases illustrating the diagnosis of this condition, Wirt describes the methods of treatment, which he narrows down to two, viz., the bloodless method of Lorenz and the cutting operation by Hoffa, modified by Lorenz and Whitman. Four cases are reported that were treated with more or less success. He finds that the non-cutting reduction method is rarely effective after the age of 4 or 5, and when it fails the other should be employed up to the age of 8 or 9. Above this it is not worth while to attempt it, on account of the marked anatomic changes which have taken place. In his own method, he does not cut the short muscles as advised by Lorenz, or the long as Whitman advises, but uses considerable force to bring the head of the bone to its normal site.

106. **Brain Syphilis.**—The "fragmentary observations given by Aldrich refer especially to the accurate diagnosis of cerebral syphilis, the limited application of the general laws of prognosis in the specific lesions, the tendency to relapses, the importance of giving attention to the age, sex, social status, alcoholism, cachexia, etc., in each case, and the constant danger of pathologic accident in syphilitic individuals. Later he notices the favorable influence of specific treatment in these cases as compared with similar clinical conditions of nonspecific origin.

110. **Rectocele.**—Lott describes a method of operating which he thinks has certain advantages over others, though not widely differing from them. It consists in making a triangular flap on the vaginal wall at the highest point on the rectocele, from the base of which two cuts are carried down to the point on each labium where apposition will re-establish the normal perineum. The space between these, excepting the triangular space mentioned, is denuded and the edges of the outer incision brought together by buried sutures fastened by perforated shot, making altogether a sort of a Y-shaped line of sutures. He thinks this the means of attaining the four cardinal wants of the case, viz., repair of the perineum, taking the slack from the lateral walls, removing the rectocele, and supplying in its stead, in the posterior wall, a contracted, cicatricial column, with prong projections into the vaginal fornix, which most nearly restores the parts to their normal function and gives support to the organs above.

112. **Cough and Its Treatment.**—The reflex origin of cough is especially emphasized by Porcher, who points out the localities from which it may arise, viz., nasal and nasopharyngeal cavities, pharynx and laryngeal tonsil, the larynx and ear. A purely neurotic one is also mentioned and affords some of the most brilliant successes of the physician. In cough we should find the cause and treat that. He finds that the C. and C. mixture of chloroform, codeia and hydrocyanic acid has an excellent effect on pharyngeal irritability. Where there has been much nasopharyngeal catarrh, he has had benefit from the use of a gargle consisting of carbolic acid and glycerin, biborate of soda and tannic acid. In tubercular cough nothing is so good as absolute rest of the throat; the gouty and lithemic one requires treatment for that condition, and he has met with cough where specific treatment only was effective. In order to stop the nervous form, the mental impression is a requisite and both constitutional and local treatment are useful. The former may consist of a sharp cathartic for its revulsive effect. He usually makes an application of the galvanocautery to the lingual tonsil, because the explosive effect of the cough is chiefly against that gland, and if it is made a little sore the patient will take more pains to control it. Cough medicine is hardly necessary in these cases, but the above C. and C. mixture may be soothing. It is hard to say just what effects hypnotic suggestion has in these cases, but there is no question that it goes a long way.

117.—See abstract in The Journal of Sept. 2, 1899, p. 622.

123.—See The Journal of February 3.

132.—This paper has appeared elsewhere: See The Journal of April 7, title 46, p. 863.

FOREIGN.

British Medical Journal, April 21.

"Riding Fragment" in Fractured Leg. C. H. Golding-Bird.—Fracture, especially of the tibia, is noticed at length with special reference to the coaptation of the fractured ends. In the beginning the author calls attention to the real test of the value of any method of treatment, and the tendency of late years to authorize cutting down on the simple fractures to insure very direct apposition. One of the first things is to have the injury repaired at the earliest possible moment. He thinks operation for simple fractures has been carried to extremes. There is a possible danger in skiagraphy; the patient may have a skiagram taken after the fracture has been treated and find a certain deformity and on this may base a claim of improper treatment. If the utility of the limb is perfect, though there may be a remnant visible in the skiagraph, he doubts whether the success of the treatment has been in any way impeded and it is not advisable to incise simple fractures simply to meet the demands of the skiagrapher. The special subject of the lecture, however, is the "riding fragment," and the main point made is that the most frequent fracture is not the oblique, as is commonly supposed, but is rather what is called the spiral type, and for this reason the continuous retention of the bone in place is more difficult. If the tibia is intact it itself acts as a splint, but the more usual rule is for it to be a great opponent to restoration, and the arrangement of the muscles of the two bones causes a spring action, the fibula pulling the muscles of the tibia apart. We have to suppose that jagged ends of the broken fibula have been driven into the surrounding fibrous connections and firmly held there in a false position, to understand how a rotary action applied to the tibia to lock the spiral would, for anatomic reasons, give an equally rotary reaction to the fibula, the fracture of which bone not being spiral would not be similarly influenced. Hence the fractured ends of the fibula, thus twisted, act as springs until the force is removed, or continue their spring action until they unlock the adapted spiral. Golding-Bird does not claim this idea to be altogether new, but he believes the fibula to be the main cause of the trouble constantly found in setting fractures of any portion of the shaft of the tibia, hence the usefulness of operation in these cases.

Calculi Impacted in the Ureters. David Newman.—Newman describes the pathology, symptoms, and surgical treatment of impacted calculus in the ureter, and the symptoms produced by retention of urine in this way are quite fully discussed. The methods of diagnosis are pointed out and illustrated. Much can be done by palpation through the abdominal parietes, provided the walls are flaccid and the patient thin and the stone situated above the brim of the pelvis, but if the patient is corpulent and the muscl [illegible] this [illegible] be of much use. When the stone [illegible] of the ureter, examination with the finger in the rectum and vagina may lead to its detection. Cystoscopic examination may be of great value. Sometimes the calculus is arrested at the outlet of the ureter and forms a tumor in the bladder, which can be treated immediately through this organ. The Roentgen rays have not been of much value. The distinction from other obstructions, such as tumors and displacements of the pelvic organs, adhesions, etc., is sometimes a little difficult, but the usual suddenness of the obstruction is a characteristic in most cases, and other disease causing pressure of the ureters is generally so prominent as to be recognizable. The adjustment to such cases, however, does not include the calculus. The most important cases to distinguish from calculus obstruction are such as kinking of the ureter, as may happen with movable kidney, or where the impediment arises from angular insertion of the ureter. The treatment depends on a thorough understanding of the conditions. If there is reason to think only one side is affected, it is advisable to await the course of events, and frequently the obstruction is spontaneously relieved and no permanent harm results. Sometimes massage, shampooing and fomentations, etc., are useful. Opium to relieve pain should be used with great care, as even small doses may have serious effects when the kidneys are obstructed; it is better to use other methods, as hot fomentations, baths, or even an anesthetic, which may so relieve the spasm as to facilitate the passage of the calculus. Change of position may have some effect. When the ureter of the only working kidney is affected, operation is necessary, and when it can not be felt with the finger, it will have to be reached through the abdominal parietes. The methods of operation are described. If the stone can be pushed backward into the kidney and removed by nephrectomy, this is probably the best method and the sound should be passed down the ureter to be sure no further obstruction exists. If it is firmly fixed in the ureter, incision should be made, and this can afterward be closed by sutures.

The Lancet, April 21.

Coxa Vara. C. B. Keetley.—Coxa vara—a deformation of the femur in which the head sinks to a lower level than the normal, sometimes almost touching the lesser trochanter—is a sequence of rickets. Keetley thinks in many cases of genu valgum the knee deformity is a compensatory curve to a certain degree of coxa vara. He mentions a characteristic alteration of bones of the face and forehead, a sort of expansion and an appearance of thinness in the orbital and nasal regions. Pain is the first symptom and later there is even limitation of the movements and lameness. In diagnosis it should be differentiated from dislocation by the absence of looseness of the limb, and from hip disease by the absence of pain on pressure and movement and its relief by rest, and the lack of startings at night, and the less wasting of the thigh, etc. The disease, at first progressive, usually comes to a stop with a certain amount of deformity and the treatment is to restore the shape of the bone, as far as possible, by osteotomy, and to relieve the pain by rest; the latter is only palliative. The author suggests an operation which he thinks practicable, but not liable to be popular, for, if carelessly and awkwardly done, it may produce imperfect results. It consists in dividing the bone a little above the upper trochanter, then cutting—obliquely, again from the outer surface of the fragment—a portion with the muscular attachment and resetting the bone on this last surface, fastening it with pins or wires. He thinks this would be more effective than simple osteotomy, and closes with a claim to priority in the recognition of the nature of the disorder, his paper having been published prior to Müller's, in a journal which only lived a couple of years, and has therefore not been largely quoted.

Causation of Nervous Symptoms in Typhoid Fever. Alexander G. R. Foulerton and E. Campbell Thomson.—The authors say that the probabilities of finding pure typhoid toxins are likely to be confined to the early stages of the disease as later other complicating infections may occur and involve the nerves and nerve-centers. They report two cases, with post-mortems, of cerebrospinal implication in which they think that the meningeal complication was due to typhoid toxin. From studies of the cortex in these cases and the findings in the literature they do not learn of any marked changes in the ganglion cells that are characteristic. Experimental researches on the lower animals confirm this, and it appears from other observations that there is nothing to warrant the conclusion that typhoid toxin causes definite alterations in the ganglion cells of the central nervous system. This does not prove, however, that nervous symptoms are not produced by the pure toxins or that they do not act on other portions of the neuron.

Production of Local Anesthesia in Ear. Albert A. Gray.—After experimenting with various vehicles Gray finds that anilin oil with rectified spirit, as a solvent for cocain, has special advantages in producing a specially beneficial effect on suppuration, causing it to diminish or cease. Anilin oil is of benefit also in rendering the drum membrane transparent. The effect on suppuration is probably due to the power of the oil in extracting the water from the tissue, which is also a quality of the rectified spirit. This method of producing local anesthesia may also be employed on other mucous surfaces. He has used it some for throat work. For the latter a 5 per cent. solution is employed; for the ear, he has used as much as 10 per cent.

Backache as a Symptom of Rectal Disorder. E. Harding Freeland.—The symptom of backache is usually associated with uterine disorder, but Freeland finds it by no means constant. It is frequently due to reflex irritation, having its origin in the irritation of the rectum, which, even though it is associated with symptoms referable to other pelvic organs, will not infrequently be found to be the cause. He reports several cases and in conclusion says that: 1. Backache is not only a common but a very important symptom. 2. Whether it be practically the only symptom present or whether it be associated with other more or less definite ones it is worthy of a careful and searching investigation. 3. No investigation should be considered complete until the condition of the rectum has been ascertained.

Bulletin de l'Academie de Medecine (Paris), April 3 and 10

Mortality and Disinfection. E. Vallin.—Grancher recently pointed out, at the Academie, that isolation in measles is ineffectual, for when the disease is recognized it is already too late to prevent contagion; that disinfection is superfluous against the germ, as its virulence is extremely short-lived, but it is necessary to prevent the secondary infections, e. g., measles bronchopneumonia, etc. Vallin now brings evidence from military barracks, to show that the virulence of the germ of measles is not so transient as is asserted by city physicians, for when the disease appears in a barracks the epidemic may drag along for many months. He thinks it probable that the germs revive and thus occasion new cases and cites an instance in which the floors of some rooms in the barracks where there had been measles a year before, were torn up and the dust permeated the entire building; there had been no cases for a year, either in the barracks or in the adjoining small town, but after the floors were torn up several appeared among men who had not been away from the station for a long time. Transmission by a healthy third person is possible and frequent, but in this case no outside source for the infection could be discovered. Vallin therefore heartily approves of disinfection during measles.

Scrofula and Adenoid Vegetations. P. Gallois.—Gallois seeks to establish that the swelling of the ganglia in the neck is secondary to a primary lesion located in some of the air cavities of the face, usually adenoid vegetations. He considers them the chief cause of cervical adenitis, of otitis and scrofulous ophthalmia. They may also lead to cutaneous infections and osteo-articular tuberculosis. By disinfection of the air cavities of the face, numbers of children would be saved from so-called scrofulous manifestations. He does not deny the influence of the "soil," but demonstrates that this is not the only factor in scrofula.

Appendicular Pleurisy. Dieulafoy.—In the presence of a fetid and putrid pleurisy of the right side, the possibility of an appendicitis as the origin must always be borne in mind, and by reviewing the history of the case it can usually be discovered six to ten days before the phrenico-pleural stage. Dieulafoy reports several observations, and shows that the ascending infection from the appendix may reach the diaphragm and pass through it in the lymph spaces or by perforation. The fluid of the pleuritic effusion is usually turbid and fetid, but occasionally, in the rapidly recovering patients, it is clear. He still advises prompt surgical intervention in appendicitis, and in case of complicating pleurisy, the operation must be dual, attacking both the pleura and the appendix; or better still, before the appendicular infection has had time to ascend to the pleura.

Rapid Diagnosis of Rabies by Microscopic Examination of Medulla of Suspected Dog. V. BABES.—During the last nine years Babes has been making a special study of this subject. and states that out of the 487 dogs suspected of rabies which he has examined he found 35 with normal medulla, and they all proved free from the disease, as he had anticipated. Microscopic examination of the medulla is therefore one of the best means of rapid diagnosis of rabies at our disposal. The alterations noted consist in a peculiar displacement of the chromatic substance of the cell protoplasm toward the center or periphery, vacuolar degeneration, total disappearance of the chromatic elements, loss of the prolongations, modification of the nucleus until it vanishes, dilatation of the pericellular space and invasion of this space and also of the nerve-cell by embryonal elements and also by peculiar small hyaline, brownish corpuscles, partially metachromatic surrounded by a pale zone. Certain nerve-cells are surrounded by a wide zone of embryonal cells forming nodules which he calls "rabic nodules." The vessels in the medulla are always dilated, and obliterated in places by thrombi formed of leucocytes, but always containing small brown metachromatic, hyaline corpuscles, arranged in heaps, stars or crowns by free granulations and fibrin. These thrombosed vessels occasion hemorrhages. They are also surrounded by wide zones of embryonal elements which are also noted in the gray matter, where the infiltration sometimes amounts to an actual inflammation. The histologic findings are always confirmed by inoculation.

Presse Medicale (Paris), April 7, 14 and 18.

Present Conceptions of Neuron and Nerve Network. A. SICARD.—The recent attempts to dethrone the neuron theory, by Apathy and Bethe. have not succeeeded in overthrowing the results of long and careful observation on which it is founded. Apathy considers the nerve-cell and its prolongations a distinct entity enclosed in, but not in contact with, a continuous nerve network which extends uninterruptedly from the sensory periphery to the motor periphery. Bethe goes still further and asserts that the nerve-cell is independent of all the conducting nerve-fibrils, sensory or motor. They converge to a "neuropile" in the center of the ganglion, and he is still uncertain as to whether or not they connect. Sicard concludes that even if the fact is established that the elementary fibrils pass from one nerve unit into another, the neuron theory may have to be slightly modified, but it would still maintain its value and importance.

Glomerulitis. V. CORNIL.—By means of colored plates, Cornil shows the various changes in the glomerulus, whether of the capsule, of the cellular coat of the vascular loops, or of the intraglomerular connective tissue, all leading to the thickening of the walls of the capillaries and a fibrous atrophy of the glomerulus. This last lesion entails the absolute functional loss of the glomerulus, which is transformed into a small fibrous nodule. This fibrous atrophy is very common in the superficial portions of the kidney and under the capsule, in subacute and chronic nephritis. In the latter a calcareous degeneration may occur or a cystic dilation or amyloid degeneration. The glomerulitis may be due to the invasion of bacteria, obstructing the lumen of the capillaries until an abscess is formed.

Painful Polymorphous Dermatitis. L. BROCQ.—Corlett described an observation of this affection, at the meeting of the American Dermatological Association in 1898. Another was described in France in 1896, and Brocq now presents the third. He proposes the above name for the group of symptoms including pains of variable intensity, usually intense and out of all proportion to the extent of the eruptive phenomena, which are polymorphous, erythematous-vesiculous, bullous, urticarial, papulous or pustulous, sometimes herpetiform, more often grouped, but also disseminated. There is a marked tendency to progress by successive "pushes." The general health seems very little affected. In the observation described and illustrated, the eruptive process was limited to each side of the face, extending from the neck in a strip over the forehead, with remarkable production of cicatrices and epidermic cysts in the affected regions, on which it recurred again and again and to which it remained limited, causing absolute alopecia. The patient was a man of 71, otherwise in good health. The affection had commenced a year and a half before, after a severe mental strain.

Cure of Harelip. E. JUVARA.—Severeaunou has been much pleased with the results of his method of operating on harelip. No tissue is wasted; the needed raw surfaces are obtained by blunt dissection of the mucous membrane layer of the lip from the cutaneomuscular in front. Each layer is then sutured, the inner over and over, brought up to form the lip, and the cutaneomuscular flap with a special zigzag suture. The needle is inserted from side to side and follows a zizag path through the tissues; each time it emerges on the skin it is reinserted in the same hole, but slanting at quite an angle from its path to the hole. Drawing the thread with a knot at the end, the lips of the wound are coaptated with no dead space, and no signs of the thread except the two knotted ends and a row of tiny holes on each side of the wound, located alternately. If there is a considerable defect to be filled a small flap can be taken from the thickness of the lip with its base toward the exterior. He usually prefers general narcosis but cocain will answer; and he has even removed a small cancer from the lip in this way, concluding the operation as above.

Prolapsus of Rectum. G. MARCHANT.—The rectovesical peritoneal pouch descends almost to the perineum in the embryo, and later frequently contains loops of intestines. If from any cause, such as relaxation of the rectal wall at this point, repeated efforts at defecation, possibly some congenital malformation of this pouch, the rectal wall yields, the intestine in the pouch will invaginate into the rectum, forming a primary perineal hernia into the rectum. This hernial sac drags the loosely fastened side and rear walls down with it, and the prolapsus of the rectum is complete. This is the explanation of the etiology of prolapsus as advanced by Ludlow last year and endorsed by Marchant. The question arises whether or not this hernial sac can not be operated on and the prolapsus be cured. The best method of treatment is not the usual resection with its frequent relapses, dangers of infection, etc., but recto-coccypexy, suspending the rectal ampulla from a stable support, the stitches taken well around on the lateral as well as in the rear wall.

Pains in the Side in Habitual Drinkers. G. MILIAN.—Hepatalgia, epigastralgia or intercostal neuralgia, simulating an acute pulmonary affection, are frequently the first symptoms to call the attention of the habitual drinker to his chronic intoxication. Local revulsion, purgatives, opium and diuretics are the means to be employed in treatment, "with a moral purgation of the patient."

Revue de Chirurgie (Paris), April.

Epithelioma of Both Nipples with Secondary Dermic Nodules. A. LE DENTU.—This puzzling case was complicated with tuberculous peritonitis, but no tuberculous lesions were found in the breasts. The patient was a young woman in poor circumstances and, aside from menstrual troubles and syphilis, had never been ill. Suddenly both breasts became enormously tumefied, with acute total mastitis, followed by a stage in which the lesions assumed a nodular aspect, with the simultaneous appearance of ascitic peritonitis. Then ensued a phase of absorption and apparent recovery from the abdominal lesion after laparotomy, followed by a fourth and last phase in the cutaneous neoplastic invasion. Each breast was the seat of a cylindric epithelioma. The mammary affection subsided to a torpid course at last, and death was due to the progress of the peritonitis, sixteen months after first indications of the mammary affection.

Total Ablation of Scapula with Retention of Member. L. Picque and Dartigues.—A myeloid sarcoma in the scapula necessitated the total removal of the bone. The cuts of the patient, a robust young woman, taken a year after operation, showed that with the exception of the lowering of the shoulder, the results had been absolutely satisfactory. A simple brace devised by Picqué restored the shoulder nearly to normal position, and the patient pursues her occupations without inconvenience, and is stronger than before. The partial and total operations of the kind on record are reviewed in tabulated form, including three by Americans at an early day: 34 total; 27 partial, and 6 with resection of the head of the humerus. The mortality was 18 per cent. Recurrence was noted in 7 of the 34 total ablations, but 13 were eminently satisfactory in the ultimate results. Statistics are defective in regard to recurrence in regard to most of the rest. Picqué explains and illustrates the various steps of the operation, opening the capsule of the joint and luxating the head of the humerus, resecting the outer third of the clavicle and severing, as the final step, the last muscles holding the scapula and twisting it around its spinal end as on a hinge, concluding with fixation of the head of the humerus slightly backward, careful hemostasis and drainage.

Uterine Fibroma with Multiple Pedicles. F. Terrier and E. Reymond.—Investigation through the cervix, in a case of fibroma described, might easily have led to error, as the fibroma seemed small and the pedicle near the orifice could be readily distinguished. But in reality the neoplasm was extensive and the true pedicle was in the roof of the fundus where it would have been impossible to reach it by vaginal operation. There were two other so-called pedicles, but the writers establish that they were merely secondary adhesions, as the fibrous polyp in its growth came in contact with a portion of the uterine wall and pressed against it, thus forming a depression in which it rested, with loss of epithelium on both the surface of the uterine wall and the polyp, entailing ulceration. As the lobe of the polyp was imprisoned in the ulcerated cul-de-sac, the muscular tissue of the uterus became continuous with that of the tumor, forming a solid secondary pedicle without interposition of cicatricial tissue, and with blood circulating through it. Cysts were noted in the fibroma, but not in the central portion nor in the primary pedicle. An explanation advanced, based on the histologic characters of the cysts, especially their cylindric epithelium lining, is that while the mucous surfaces of the uterine wall and the encroaching lobe of the tumor were in contact and became continuous, the lower end of the cul-de-sac or pocket thus formed still persisted and became surrounded by the growth of the pedicle, remaining as a closed cavity which increased in size and became a cyst visible to the naked eye.

Anterior Opening for Certain Resections of Hip-Joint. Rochet.—Comparing the ultimate results in patients operated on directly from the front with those in which the joint was reached more from the rear, Rochet finds that ankylosis in a good position is attained more rapidly and more easily by the former than by the latter method. The dressings are much more easily applied, both for the patient and the attendant, and chances of secondary infection from the anal region are much less.

Pathologic Anatomy of Cancer of Stomach. B. Cuneo. —This author's experience renders his statements worthy of attention. He confirms the infrequency of invasion of the duodenum in case of cancer of the pylorus, and merely considers the first centimeter suspicious, as a rule, recommending resection of 2 cm. as the minimum. The propagation of the neoplasm in the submucosa, beyond the limits apparent in the mucosa, is now fully established, also the invasion of the para-stomachal ganglia, which should be removed in one mass with the tumor, the incision extending as close to the cardia as possible. He suggests that the resection would be much facilitated by preliminary ligature and division of the stem of the coronary near the main fork, and also ligature of the gastroduodenal at its origin.

Centralblatt f. Chirurgie (Leipsic), April 21.

Route to Gasserian Ganglion. F. Krause.—Supplementing his former communications on the subject, Krause observes that the difficulties of the operation for resection of the Gaserian ganglion first begin with the exposure of the third branch inside the skull. From this point onward it is necessary to have the most complete supervision of the field of operation, and this can be accomplished only by elevating the temporal lobe of the brain in its dural envelope, as otherwise the field is in darkness, and complete extirpation would be impossible. Partial extirpation and the use of the sharp curette should both be rejected. But the brain should be retracted as little as possible, and, to avoid it, the side wall of the skull should be removed down to the crista infratemporalis. It is altogether unnecessary to resect the zygomatic arch. He has tested all the methods proposed on the cadaver, but has found none that allows such ample access as his own. He has made a thorough resection of the trigeminus on twenty-two patients, and states that his method of ligating the middle meningeal artery is so reliable that he can recommend it as a typical operation. He has done it three times so far in cases of hemorrhage, with complete success. He adds that experiments on the cadaver are not equivalent to those on the living subject, as there is no venous hemorrhage from the dural veins, which in isolated cases has immeasurably enhanced the difficulties of the operation, and is much more embarrassing with a narrow opening than with ample oversight of the field. His improved technique in cutting the bone flap consists in drilling a hole at each of the upper corners of the outlined, uterus-shaped flap, after two small incisions through the skin. A Gigli saw is introduced through these holes, and the upper edge of the flap sawed through from within outward, leaving the skin untouched for a time. The two side edges of the flap are then cut with a knife, a little at a time to prevent hemorrhage, and the bone by Dahlgreen's forceps, as far down as possible. The skin-bridge across the top is then divided and the bone lifted and turned over, breaking the bottom edge of the flap across; the jagged edge always corresponds to the thinnest part of the squamous portion of the temporal bone, about 1 cm. above the zygomatic arch. It is indispensable now, *to chisel away the rest of the bone down to the crista infratemporalis*, after blunt dissection of the periosteum from the large sphenoidal wing and squamous portion of the temporal bone. Without resecting the zygomatic arch therefore, the flap, hanging by skin, temporal muscle and periosteum, can be turned down over the malar bone and free access to the middle cranial fossa thus be obtained.

Deutsche Medicinische Wochenschrift (Leipsic), April 10.

Reproduction of Bacteria. Feinberg.—With the Romanowski stain, slightly modified, Feinberg has succeeded in establishing the existence of a nucleus in certain bacteria, and now announces that he has traced a series of phenomena in diphtheria, tubercle, typhus and other bacteria, which can only be interpreted as the whole process of direct cell division, from the first constriction in the nucleus to the complete division into daughter nuclei by amitosis. It is best observed in the diphtheria bacillus, in which nucleus does not so completely fill the cell as it does in some of the others.

Finding Acid-Proof Bacteria Resembling Tubercle Bacillus in Gangrene of Lungs. Lydia Rabinowitsch.—Several writers have reported finding "pseudo-tubercle bacilli," so-called smegma bacilli, in gangrene of the lungs, but none have succeeded in cultivating it from the sputum. This has been accomplished by the writer, from the sputa and the gangrenous focus of a patient with fetid chronic bronchitis and suspected cavity, but no indications of tuberculosis during life nor at the necropsy. The bacteria proved acid-proof and formed on glycerin-agar, in twenty-four to forty-eight hours, grayish-white, shiny, pinhead sized colonies that gradually spread into a wihtish, creamy film. The film lost its shine as it grew older, and became wrinkled, yellow and finally orange-colored. On bouillon there was an indol reaction and disagreeable odor. Guinea-pigs were not affected by inoculations, but mice succumbed in about ten days and the bacilli were found in their blood and organs. The bacilli also proved pathogenic for guinea-pigs when injected with sterile butter. In this case they produced the same lesions as those already described by the writer, caused by acid-proof bacteria isolated from butter. All the so-called acid-proof bacteria are distinguished from the tubercle bacilli by their pathogenic properties and their cultures. But they respond alike to stains to acids and alcohol, probably chiefly on account of the larger amount of fat they contain. The writer believes that the bacterium isolated in this experience is identical with those found in sputa and which are described by Zahn, Fraenkel, and Pappenheim.

Case of Isolated Paralysis of Nervus Suprascapularis. A. Hofmann.—Traumatism preceded nearly all of the few cases on record, the rest were consecutive to neuritis of the plexus brachialis. The main symptom is the tray-shaped depression of the infraspinous fossa in consequence of the atrophy of the musculus infraspinatus, and the weakness and effort necessary to rotate the arm outward, or raise it vertically.

Case of Multiple Melanosarcomata with Peculiar Complications in Both Eyes. A. Wagenmann.—A young man noticed small pigmented tumors on the breast and face, and one developed in the left eye, but was afterward completely absorbed. Another developed later, leaving a layer of lumps of pigment over the cornea. The right eye also became affected with a metastasic process, resembling synchysis scintillans, only the glistening points in the latter were in this case the floating, brown dots of pigment, and the membrane a compact yellow mass.

Acidophile Bacilli in Infants' Feces. H. Finkelstein.—Particles of the feces sowed on .5 to 1 per cent. acetic acid bouillon, to which 2 per cent. grape-sugar had been added, showed that there are at least two and probably four different varieties of acidophile bacteria in the intestine of healthy infants. Finkelstein announces that in certain pathologic cases there is such an increase in the numbers of these acidophile, Gram-staining bacteria that they can be considered a pure culture. They sometimes resemble those found in sound intestines and again show such a difference in their cultures that a specific difference can scarcely be doubted. They are sometimes thread-like, sometimes like streptococci, sometimes slender, curved, short threads. The morbid conditions in which the last-named shapes were noted, were distinguished by infectiousness, remarkable resistance to dietetic therapy and by the preponderance of severe nervous disturbances in the syndrome. They did not prove pathogenic for the usual laboratory animals, but young goats died regularly two to three weeks after ingestion of 10 gm. of fluid feces containing bacilli from severely sick children. The animals became extremely emaciated and temperature was subnormal, but neither clinical nor anatomic alterations could be discovered. The same amount of a pure milk culture, three days old, from a fatal case, caused death in three weeks with the same symptoms, while a like amount of normal fecal matter produced only slight and transient disturbance.

Silver Wire Treatment of Prolapsus Recti. Urban.—Several years' experience has confirmed the absolute harmlessness and efficacy of Urban's method of preventing prolapsus of the rectum. It consists in merely narrowing the orifice so that the prolapse can not occur. A silver wire is run around the rectal walls 1 cm. above the anus, and the needle inserted back in the stitch hole from which it emerges each time. The wire is drawn up and fastened, closing the lumen until the orifice will admit nothing larger than the forefinger in an adult and the little finger in a child. The wire has been usually removed after two or three months, but he is now leaving it permanently since it heals into the tissues without disturbance of any kind. All the troubles of the prolapsus vanish at once after the insertion of the wire.

Muenchener Medicinische Wochenschrift, April 17.

Diagnosis of Pulmonary Lesions Caused by Inhalation of Dust in Industrial Establishments. Baeumler.—Percussion sometimes shows that the upper part of the anterior margins of one or both lungs is very much retracted, and this retraction is evidence of induration and contractions in the lung tissue. Baeumler has noted it in a large number of cases, and in nearly all he could demonstrate lesions due to the inhalation of foreign particles in the dust from industrial establishments. These inhalations cause frequent bronchial catarrh, recurring at progressively shorter intervals, emphysema of the lungs, bronchopneumonia and inflammation, with participation of the interstitial tissue later and termination in the formation of indurations and contractions. Bronchiectasis is frequently the result of the bronchopneumonic processes and atelectasis in the lower lobes, but more or less extensive indurations and shriveling predominate at the apices. Tuberculosis may make its appearance sooner or later, but the alterations it finds are nearly identical with its own healing processes, and its course is liable to be much more favorable than in persons without these dust lesions. Changing to another occupation may rapidly cure persons who have for years presented evidences of serious but non-tuberculous pulmonary processes, but the remains of the former inflammatory lesions persist, and in case of a fresh catarrh or acute bronchopneumonia, may deceive the physician into the belief that he has an advanced case of tuberculosis. It is therefore of great importance in both differentiation and prognosis to determine the significance of the alterations noted. The shortening of one or both of the apices indicates shriveling, but the retraction of the anterior margins of one or both of the lungs along the upper portion is an almost infallible sign of indurations and shriveling. In an observation described and illustrated, the margins are so retracted that the anterior mediastinum is not covered by the lungs in any portion.

Improved Sediment Method for Microscopic Study of Bacteria, Especially of Tubercle Bacilli in Feces. J. Strasburger.—An abundant sediment can be obtained from urine or diluted feces containing bacteria, by reducing the specific gravity. This allows the bacteria to settle to the bottom by centrifugalization, while in fluids with the specific gravity of water, the bacteria remain indefinitely in suspension. Strasburger finds the specific gravity can be best reduced by diluting one part of the fluid with two parts of 96 per cent. alcohol. The bacteria will be found in the sediment with half a minute's centrifugalization. The flakes of albumin coagulated by the action of the alcohol assist in the rapid sedimentation of the bacteria. A peculiar advantage of this method is that preparations made by the sediment dry much more rapidly than usual, on account of the alcohol. Even without a centrifugalizer, sedimentation occurs in one-half hour, but would require a whole day without the alcohol. This sediment process is especially instructive in case of suspected tuberculous lesions in the intestines, and will afford information in regard to the presence of tubercle bacilli in apparently normal feces, not obtainable in any other manner.

Zeitschrift f. Orthopedische Chirurgie (Stuttgart), vii, 22.

Congenital Luxations of Knee-Joint. G. Drehmann.—To determine the relations between congenital luxation of the knee-joint and congenital genu recurvatum, which have been frequently confounded by various later writers, Drehmann describes five personal cases and reviews all he could find in the literature of both malformations—127 in all. He restricts the term genu recurvatum to an abnormally excessive extension movement, with otherwise normal flexion, without backward displacement of the condyle of the femur. True luxation consists in the dislocation of the condyle of the femur toward the rear, or a luxation of the tibia on the articulating surfaces of the patella. Later, as the child develops, the more advanced stages of the dislocation are reached, as occurs with congenital luxation of the hip-joint, which is much more frequent, and in which several stages can be distinguished. The slight displacement at birth gradually becomes more and more pronounced forward and upward. Not until later, when weight comes upon it, is the backward luxation observed. We are justified in assuming that at birth there is merely a subluxation in many cases. Another point in which it resembles luxation of the hip-joint is the frequent association of other malformations allied to it. Coxa vara usually occurs with luxation of the hip, and genu valgum frequently with luxation of the knee. In the cases reviewed in which the sex was mentioned there were 46 females to 29 males and 1 hermaphrodite. In 54 cases of forward dislocation it was restricted to one side; and in 48 it was bilateral; in 6 it was "voluntary luxation;" in 6, unilateral backward; in 3, unilateral outward; in 5, bilateral backward; and in 3, bilateral mixed (backward and forward). The etiology is possibly that in the differentiation of the joints, the knee does not become flexed, or else it gets into extension at a time when the upper portion of the limb is much larger than the lower and thus the lower portion has freer swing. If this occurs before the muscles are completely formed—which we are justified in assuming from the conduct of the patella—the leg can remain a long while in this abnormal position. The foot gets caught by the chin or in the axilla, and notwithstanding the presence of plenty of fluid, is prevented from returning to a flexed position as it has grown in length during the interval. Genu recurvatum first occurs, then pes calcaneus and then the joint surfaces slide apart. The hip or the knee joint may be affected or both together. Prognosis is more favorable for the knee than the hip, which is a much looser articulation. The results of treatment are better, the earlier it is commenced. Reposition—with narcosis for older children—is only complete when the condyle of the femur is no longer to be felt in the popliteal space and the lower portion of the leg remains flexed during narcosis; for after-treatment a circular plaster cast holding the knee at a right angle or in moderate flexion for younger children; operative treatment for older persons or rebellious cases.

Recent Progress in Treatment of Scoliosis. A. Hoffa.—In this profusely illustrated communication Hoffa describes his success in mobilizing the rigid scoliotic spinal column with suitable apparatus; the general and special gymnastic exercises by which he stimulates and restores strength to the muscles of the back, until the patient can voluntarily assume the normal position, and the apparatus which he uses to hold the spine in this normal or overcorrected position. The latter consists of an iron pad covered with leather, which is applied to the prominence on the spine and held by a leather strap over the shoulder, and a stout iron rod which screws up and down in a threefold slide at the base of the spine, modifying its position in three different directions. The slide is fastened immovably in a long corset which embraces the pelvis. The firm support afforded by this is the chief feature in the apparatus. The pressure of the pad is as much like that of the hand as possible.

Progres Medical (Paris), March 31 and April 7.

Tuberculosis of the Eye. A. Pechin.—The arguments in favor of enucleation as the treatment of supposed primary tuberculosis of the eye are refuted by the extreme rarity of this form of tuberculosis as a primary affection. Pechin advocates very conservative measures. Even a "fungous" degeneration, with the cornea quite destroyed, has been known to heal spontaneously. Iridectomy in case of a solitary tubercle may save the eyesight, as in a few cases on record, in which there was good retention of light vision. With disseminated tuberculosis of the iris there should be no intervention, as the traumatism might develop acute accidents, while there is always a possibility of spontaneous absorption.

Societies.

COMING MEETINGS.

American Medical Association, Atlantic City, N. J., June 5-8.

Arkansas Medical Society, Jonesboro, May 14-16.

Illinois State Medical Society, Springfield, May 15-17.

Medical Association of State of Missouri, Mexico, May 15-17.

Medical Association of Montana, Butte, May 16.

Iowa State Medical Society, Des Moines, May 16-18.

American Medico-Psychological Association, Richmond, Va., May 22-25.

Connecticut State Medical Society, New Haven, May 23-24.

North Dakota State Medical Society, Grand Forks, May 23-24.

Indiana State Medical Society, Anderson, May 24-25.

Association of Military Surgeons of the United States, New York City, May 31 to June 2.

American Laryngological, Rhinological and Otological Society, Philadelphia, May 31, June 1 and 2.

New Hampshire Medical Society, Concord, May 31 and June 1.

International Association of Railway Surgeons, Detroit, Mich., May 30 to June 1.

Baltimore & Ohio Association of Railway Surgeons, Atlantic City, N. J., June 1-2.

Conf. of State and Prov. Bds. of Health of N. A., Atlantic City, N. J., June 1-2.

American Academy of Medicine, Atlantic City, N. J., June 4.

American Medical Publishers' Association, Atlantic City, N. J., June 4.

Association of American Medical Colleges, Washington, D.C., June 4.

American Medical Editors' Association, Atlantic City, N. J., June 4.

Medical Society of New Jersey, Atlantic City, N. J., June 4.

New Mexico Medical Society, Santa Fe, June 5.

American Association of Acting Assistant-Surgeons, U. S. Army, Atlantic City, N. J., June 6.

Rhode Island Medical Society, Providence, June 7.

Medical Association of Delaware, Rehoboth, June 12.

Massachusetts Medical Society, Boston, June 12-13.

American Association of Military Surgeons of the U. S., New York City, June 12-14.

Oregon State Medical Society, Portland, June 12-14.

Colorado State Medical Society, Denver, June 13.

Maine Medical Association, Portland, June 13-15.

South Dakota State Medical Society, Aberdeen, June 14.

Indian Territory Medical Association, Wagoner, June 19-20.

Wisconsin State Medical Society, Milwaukee, June 20.

Worcester North District Medical Society.—This Society's forty-second annual meeting was held in Fitchburg, Mass., April 24. C. H. Bailey was elected president for the coming year.

Greene County Medical Association.—This body met in Waynesburg, Pa., April 24, and elected officers: president, Ira D. Knotts, Davistown; vice-president, T. N. Milliken, Waynesburg.

Bucks County Medical Society.—At the spring meeting, held May 2, the following officers were elected: president, A. S. Wilson, Bristol; secretary, A. F. Myers, Blooming Glen. Prof. John Da Costa, of the Jefferson Medical College, Philadelphia, made the address.

Brainard District Medical Society.—The annual meeting of this Society was held in Springfield, Ill., April 26, and the following officers were chosen for the ensuing year: president, J. L. Lourie, Lincoln; vice-president, S. F. Hurst, Greenview; secretary, Katherine Miller, Lincoln.

Ophthalmological and Otological Society.—At the annual meting of this Society, held recently in Washington, D. C., the following officers were elected: president, S. O. Richey; vice-president, secretary and treasurer, Anton Coe, vice W. K. Butler, who resigned, having filled that office for the past four years.

Hunterdon County Medical Society.—The annual meeting was held in Flemington, N. J., April 24, and the following officers elected: president, E. H. Moore, White House; first vice-president, Geo. W. Barton, Three Bridges; second vice-president, H. Ward Servis, Junction; treasurer, I. S. Cramer, Flemington; secretary, O. H. Sproul, Flemington.

Suffolk District Medical Society.—The fiftieth anniversary of this Society was observed April 28, in Boston. The programme contained a history of its organization, sketches of some of its members and speeches by a few who had been with the Society since its inception. The officers elected were: president, H. L. Burrill; vice-president T. M. Rotch; secretary, H. A. Lathrop; treasurer, W. H. Prescott.

Susquehanna County Medical Society.—The fifty-second annual meeting of this Society was held in Wilkesbarre, May 3. The following officers were elected: president, R. M. Stratton, Scranton; vice-president, B. M. Crary, Wilkesbarre; recording secretary, T. W. Thomas, Wilkesbarre; treasurer, J. C. Mertz, Easton. The next meeting will be held in Williamsport.

Hudson County Medical Society.—The annual meeting of this New Jersey organization was held May 1 in Jersey City. Following are the newly elected officers: president, John Parsons; secretary, C. J. Purdy; treasurer, Henry C. Brinkerhoff. It was decided to hold two meetings a year hereafter instead of one, as has been the custom.

American Therapeutic Society.—In pursuance with a call issued by the Therapeutic Society of the District of Columbia, a meeting was held in Washington, May 1, and the organization of the American Therapeutic Society effected. It will become affiliated with the Congress of American Physicians and Surgeons, and will meet annually, next year in Washington, D. C., on May 7. The officers are: president, Horatio C. Wood, Philadelphia; first vice-president, Howard H. Barker, Washington; second vice-president, R. W. Wilcox, New York City; third vice-president, E. H. Long, Buffalo, N. Y.; secretary, Noble P. Barnes, Washington; recorder, William M. Sprigg, Washington; treasurer, John S. McLain, Washington.

Pan-American Medical Congress.—The International Executive Committee of the Pan-American Medical Congress, consisting of Drs. Albert Van Dervere, Albany, N. Y.; Chas. A. L. Reed, Cincinnati, Ohio, and H. L. E. Johnson, Washington, D. C., met in executive session at Buffalo, N. Y., April 27, to determine the place of meeting of the third Pan-American Medical Congress. The Congress should have been held in Caracas, Venzuela, but owing to the uncertain conditions, growing out of the military operations in that country, the executive committee was requested by the medical president to hold the meeting elsewhere. The committee was unable to decide just where the Congress should meet, owing to the urgent requests from several countries, so has taken the matter under advisement, and will report on the date and location later.

Congress of American Physicians and Surgeons.

Fifth Triennial Session, Washington, D. C., May 1, 2, and 3, 1900.

The President of the Congress, Dr. Henry P. Bowditch, of Boston, in the chair.

The Congress voted on a proposition for the appointment of a committee of three with full power to draw up and execute a memorial to the Congress of the United States, asking that charitable, religious, and educational institutions be relieved from such provisions of the war revenue act of 1898 as imposed taxes on the legacies left to such institutions, and to take such other action as may, in their discretion, seem desirable in securing such relief.

ADAPTATION OF PATHOGENIC BACTERIA.

PROF. THEOBALD SMITH, Boston, presented the first paper, in which he spoke of the adaptation of pathogenic bacteria to different species of animals, and discussed at length the diseases incident to, and the infectious diseases which human beings share with, animal life. He said that medical science and medical art are concerned chiefly with the phenomena of human disease. All that medical science desires to know is the series of causes antecedent leading to any given disease. Medical art wishes to know where human ingenuity may enter to modify, suppress, or eliminate portions of this series, to interfere with the progress of the disease and bring it to a standstill. By common consent, hygiene devotes itself to external phenomena; pathology to the internal. Professor Smith contended that to learn the simplest facts recourse to animal experiments has been necessary. Experiments on human subjects are not only not permissible, but as a rule sterile of results under conditions necessarily imposed. He gave a technical description of experiments made on many of the lower animals and demonstrated their value to science.

DR. SAMUEL J. SMELTZER, New York City, followed with a paper in which he dwelt on the physiologic resources of the body in its defense against bacteria and their toxic products; while Prof. Harold C. Ernst, of Boston, spoke in a technical manner of flagella and serum reactions.

BACTERIOLOGY AND CLINICAL MEDICINE.

DR. RICHARD C. CABOT, Boston, discussed the relations of bacteriology to clinical medicine. He classified the diseases whose etiology is known, such as diphtheria, anthrax, Asiatic cholera, tuberculosis, bubonic plague, gonorrhea, glanders, tetanus, relapsing fever, influenza, erysipelas, typhoid fever, epidemic cerebrospinal meningitis, croupous pneumonia, etc. He then considered diseases whose etiology is probable, but not definitely known, and among these he mentioned meat poisoning, leprosy, epidemic and tropical dysentery, and referred to diseases whose etiology is shrouded more or less in darkness, such as whooping-cough, yellow fever, etc.

He advised examination of the sputum for the influenza bacillus, for the pneumococcus, and in tropical countries the sputum should be examined for the possible presence of the bacillus of plague. Examination of the cerebrospinal fluid enables the physician to identify the bacillus of epidemic cerebrospinal meningitis—the diplococcus intracellularis of Weichselbaum. The pneumococcus can be identified, as well as the tubercle bacillus, in the same fluid. Examining the urine for typhoid bacilli should have a wider range of use than it previously has had. That too, of the nasal discharge, sometimes influences the prognosis.

As to the use of serum reactions, he regards the Widal as established, also the tuberculin reaction, which has taken a firm hold on the profession; it can be carried out without danger, if the proper precautions are taken. The mallein reaction is also well established.

As to pneumonia, it is now known that no one organism is responsible for this disease, but that the affection is produced by many different ones, as can be clearly demonstrated by the appearances and conditions found post-mortem. One organism may cause many diseases; for instance, the tubercle bacillus acts on the brain, bone, peritoneum, etc. The finding of the influenza bacillus in coryza influences the prognosis of that disease. The finding of pneumococci in cases of empyema likewise markedly influences the prognosis of that.

BACTERIO-THERAPEUTICS WITH ESPECIAL REFERENCE TO TUBERCULOSIS.

DR. EDWARD R. BALDWIN, Saranac, N. Y., followed with a paper on this subject.

He briefly considered the various uses of bacteria and serums in the prevention and treatment of disease, with a more detailed account of those in tuberculosis.

Living bacteria are little used, except in vaccination for variola and anthrax. Dead cholera, plague and typhoid bacilli are useful in prevention, but irrational in treatment.

Diphtheria and tetanus are as yet the only conspicuously antitoxic serums of practical value. Streptococcus, pneumococcus, cholera, typhoid, plague and recurrent fever serums are either bactericidal or bacteriolytic, and of greater value in immunization than treatment.

There are many extracts of tubercle bacilli under the general name of tuberculin, which the author enumerated and described. No permanent immunity is produced by any of them, though the new tuberculins have some immunizing power in animals. The method is not applicable in man, nor safe, as it is likely to produce chronic poisoning, even in healthy subjects. Research at present aims to discover and utilize the mechanism of relative immunity produced by injections of bacillus substance.

The nature of the tuberculin reaction is of importance. Of the various theories promulgated, that which assumes a ferment action chiefly produced by secretions from the leucocytes, is most in line with present knowledge. Many bacterial extracts, nucleins and digestive albumoses excite some such reaction as tuberculin produces.

Tuberculin used therapeutically has only a limited application, and as it does not immunize for any length [illegible] ime, may not be better than other subs[illegible] local hyperemia. The production of local hyperemia as a therapeutic measure is rational in lupus, tuberculous peritonitis and to a limited extent in pulmonary tuberculosis.

Serums are not yet successful as to antitoxic properties. They may be bacteriolytic or bactericidal. The profession must still hope for some efficient serum or extract of tissues, though possibly not antitoxic.

ETIOLOGY OF MALARIA.

Dr. William S. Thayer, Baltimore, Md., discussed the etiology of malarial fevers, and spoke of mosquitoes as causative factors in this affection. Inoculation experiments have shown that through the bites of these insects some type of the disease can be transmitted from one individual to another.

BACTERIOLOGY OF DYSENTERY.

Prof. Simon Flexner, Philadelphia, talked on this subject and presented a summary and the results of his investigations in the Philippine Islands. He said that three sets of organisms have been described by different observers, as the cause of dysentery, namely, pathogenic cocci, bacilli, and protozoa, but the specific organism has not as yet been discovered. Evidence to show that the bacillus coli commune is the cause is wanting in many particulars. The ameba coli, on the other hand, has much more evidence in its favor as a cause of dysentery, and this the speaker dwelt on at considerable length, narrating experiments, etc. A large number of observations tend to show that in the tropics the protozoa which have been found, and are said to be the cause of dysentery by some, can not be distinguished morphologically from the ameba coli which is present in the normal intestine. During a residence of three months in Manila, he had an opportunity of studying this disease among the American soldiers. He found two forms, a very acute one, which was rapidly fatal, and the chronic. The acute was unassociated with the presence of ameba coli; while the chronic showed the amebæ with greater regularity.

SOCIOLOGIC STATUS OF THE PHYSICIAN.

Dr. Clarence J. Blake, Boston, discussed the sociologic status of the physician. Sociology was defined as the science of the laws of human relationships. Among other things, the Doctor said that people turn to the practitioner of medicine for advice and counsel because of his broad knowledge and thorough study of human nature and the relation of one individual to another. The education necessary to fit one for the practice of medicine is more exacting, and requires more intense and closer application than the corresponding courses which lead to a degree in law or divinity. The possession of a knowledge of human life and intimate relationships implies great responsibility.

Attention was directed to the admittance of women into hospital life, and to training schools for nurses. Since the advent of the trained nurse better service has been rendered to both the physician and patient; besides the general beneficial effect exerted on the morale of the latter.

EVOLUTION OF THE PHYSICIAN.

Dr. S. Weir Mitchell, Philadelphia, recited a poem on the evolution of the physician. It elicited considerable applause throughout its delivery.

THE MEDICAL SCHOOL OF THE FUTURE.

Prof. Henry P. Bowditch, the President of the Congress, delivered an address on this subject. He said that among the intellectual movements that have characterized the century now drawing to a close, there is perhaps none more deserving of careful study than that which is concerned with providing education for the people in the school, the academy, and the university. The importance of popular education becomes apparent in proportion as political freedom is secured for the people. For many years educators looked on their work with no little complacency. The educational systems of the various civilized countries were supposed to be well adapted to the ends in view. Education has not always been found to furnish the required safeguards for order and liberty, and highly educated men have been found singularly lacking in mental balance. Schools for the inculcation of common-sense have never yet been established. The great danger which threatens the system of popular education in America is its too close association with party politics. The office of school committeeman in one of our large cities has been well described as "the smallest coin in which the politicians pay their debt," and as long as the education of children continues to be entrusted largely to men who consider their positions to be the lowest step of the political ladder, there is small hope of the adoption of rational methods of education.

Professor Bowditch pointed out many of the evils of the modern system of education, paying particular attention to medical colleges, and showing how he believes the faults or defects will be remedied in the future. He thinks the medical school of the future should be connected with some university, but entirely independent of university control outside of questions relating to methods of personal teaching. Such a school will afford advanced instruction in every department. Laboratory instruction will be greatly extended and students trained to get knowledge, as far as possible, by direct object study. The didactic lecture, though it will not occupy as conspicuous a place as it has heretofore, will not by any means be displaced as an educational agency. The work of students will be so arranged that their attention shall be concentrated on one particular subject at a time, and subjects will follow each other in natural order.

Chicago Medical Society and Chicago Medical Examiners' Association.

Joint Meeting, April 11, 1900.

DISEASES OF THROAT AND NOSE IN RELATION TO LIFE EXPECTANCY.

Dr. William E. Casselberry read a paper on this subject. Diseases of the throat and nose have not as yet been accorded a position of any great prominence with reference to life expectancy. Many of the simpler affections, important as they are from the standpoint of the patient's comfort, show but little tendency to abbreviate existence; yet there are other and graver conditions often confused with the simpler affections, lightly passed over, or wholly unrecognized by the casual observer, which do exert a decided influence on one's expected term of years. Simple, hypertrophic, and atrophic rhinitis, when uncomplicated, have little or no influence on life expectancy, unless the case be of extraordinary severity, or occurring in one of otherwise debilitated constitution. But these unimportant catarrhal affections are liable to be confounded with more serious nasal diseases which are prone to shorten the duration of life and which the examiner therefore should seek to discover. Prominent among these the author mentioned chronic suppuration of the antrum of Highmore, or of the frontal and ethmoid sinuses.

Nasal obstruction commonly indicates only hypertrophic rhinitis or septal deformity, widespread affections which, unless extreme, may be disregarded from the standpoint of life expectancy.

The significance of nasal polypus with reference to life insurance varies with the individual case. If single or small and with little disposition to recurrence after removal, it may add but a trifling risk, but when multiple or large and persistently recurrent, a conservative custom would be to exact a thorough removal of polypi, as a condition preliminary to acceptance. Polypi are a frequent accompaniment and probably at different times both a cause and an effect of sinus empyema, so much so that to the rhinologist their presence is instantly suggestive of a possible chronic suppuration in one or more of the accessory sinuses of the nose.

Another symptom of nasal disease of which the examiner should take cognizance is fetor. When pronounced, it is common both to the ozenal type of atrophic rhinitis and to the gummatous ulcerative or necrosing stage of nasal syphilis.

Tuberculosis of the larynx is almost invariably secondary to pulmonary tuberculosis. The primary lung disease, however, may be so slight as to escape notice in some cases; hence the importance of bearing in mind the possibility of laryngeal tuberculosis as a rapidly fatal and sometimes early complication.

Impairment of the voice is an important symptom with reference to life expectancy, one which should be the subject of minute inquiry on the part of the examiner, eliciting information concerning its cause, mode of onset, duration, variation, disposition to recurrence, etc., and which, if not thus satisfactorily accounted for, should suggest a careful laryngoscopic examination.

Dr. E. F. Ingals sent a short paper in which he estimated that less than 3 per cent. of all persons examined for life insurance are subjected to any examination of the upper air-passages. It is not believed that the insurance companies lose anything in a large percentage of the cases supposed to be normal. There is no question, however, among those who have to do with diseases of the upper air-passages that they have an important relation to various other affections which materially influence life expectancy. Sharp deflections of the nasal septum would influence the opinion of the examiner, for the reason that such deflected septa may produce epilepsy.

Dr. Homer M. Thomas classified a list of diseases into those which are of the acute and chronic type; those which are malignant and non-malignant, and those which are irrelevant as to life expectancy, but inferentially dangerous. A long list of diseases was mentioned. He quoted Horace Green, who maintained that chronic follicular pharyngitis is an impediment for life expectancy, for the reason that this disease might ultimately lead to phthisis. Many other affections were mentioned as influencing life expectancy.

Dr. J. Homer Coulter believes that the medical directors should select younger men as examiners, because the colleges of later years have devoted more attention to life insurance examinations and physical diagnosis as a specialty than formerly, consequently the men who have graduated within the last twelve or fifteen years are better prepared to make critical examinations, when necessary. Medical colleges should establish a chair of insurance examinations. When this is done there would be a practical application of the theories advanced by Dr. Casselberry.

Dr. William L. Ballenger said that all patients with chronic hoarseness should be subjected to a critical examination before being accepted as risks, all who have a chronic pus discharge and all with cyanotic hue of the mucous membranes of the nose and throat.

EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.

Dr. George W. Webster followed with a paper on this subject. By the early recognition of this disease he means a positive diagnosis made at the earliest time that tubercle bacilli are found in the sputum, either by the aid of the microscope, or by the inoculation of animals, and a tentative probable diagnosis long before this time. He first described the clinical manifestations, including an examination of the sputum, and then other means and methods which are available and valuable, such as the use of potassium iodid, tuberculin, the X-ray, and the inoculation of animals.

The family history should be carefully investigated, for two reasons: 1. The peculiar type of chest and tissue in which resistance is diminished and tuberculosis is likely to develop is inherited. The degree of immunity is below the average. What is inherited is rather an increased vulnerability to adverse conditions of all kinds. 2. Where there has been tuberculosis in the family, the environment has been unusually favorable for the occurrence of infection.

Dr. Webster then discussed, in their order and at considerable length, personal history, age, occupation, habits, previous illnesses, symptoms, general examination, mensuration, circulatory system, palpation, percussion, auscultation.

The earliest respiratory sign of beginning tuberculosis is enfeebled breath sounds, or a slightly roughened harsh respiratory murmur, audible during expiration; or the expiratory sound slightly prolonged. This slight increase in the relative length of the expiratory murmur may be the only sign at first and may not have the slightest suspicion of a tubular quality, but is slightly increased in intensity.

Auscultation of the voice is of great value in confirming the findings of percussion and auscultation. Temperature is one of the most reliable guides. In all doubtful cases it should be carefully taken at least four times in the day and for several successive days. When the temperature is persistently above the normal, especially in the evening, it deservedly arises above the dignity of a mere suspicion. The sputum should then be examined for tubercle bacilli.

The value of the serum test as a diagnostic aid is as yet not fully determined.

The essayist spoke of a new sign of tuberculosis to which the attention of the profession has been directed by Murat, which consists of a subjective sensation of vibration in the affected apex on loud speaking. Dr. Webster has been able to confirm this sign in cases far enough advanced to cause consolidation, this facilitating the conduction of vibrations, but at this stage it is not needed. He has failed to elicit it in the earliest cases.

The X-ray has its advocates as a valuable means of early diagnosis, but the cost of the necessary apparatus, together with the high degree of technical skill required, will serve to limit its value, which has not yet been satisfactorily demonstrated.

The iodid of potash test is one of very considerable value. In those cases in which there are very faint physical signs and an absence of even the amount of sputum necessary for a microscopic examination, or where we desire to determine the location and extent of the tuberculous process, this method offers many advantages. The author directed attention to and quoted from a paper by Dr. Edward F. Wells, read before the Chicago Society of Internal Medicine, December, 1898, and published in The Journal, Feb. 4, 1899, in reference to the iodid of potassium test.

He presented a mass of evidence for and against the tuberculin test. Opponents of the test allege unreliability, reaction in other diseases, notably syphilis; no reaction in cases of undoubted tuberculosis. Its advocates assert that it is safe, delicate, reliable, and that in very many cases it furnishes an absolutely safe means of making an absolute diagnosis.

Dr. Webster presented the following conclusions: 1. There seems to be no agreement or understanding as to what constitutes the "pretubercular" stage or what is meant by this term. Does it apply to that syndrome of symptoms which arise after infection has taken place; or, to that condition in which vulnerability is increased, the degree of immunity lessened, whether from hereditary predisposition or the effect of disease, unsanitary surroundings, bad habits, impaired nutrition, etc. This may seem a nice distinction, and yet such a discrimination must be made. In the former, any characteristic phenomena are symptoms of tuberculosis; and in the latter they are simply those of other diseases, types, etc., which should warn us that in these cases tuberculosis is especially likely to develop. To speak of such phenomena as pretubercular in the sense that they all make up a symptom group indicating that tuberculous infection has already occurred, is absurd. To speak of it as a "stage" of a disease before the infection has occurred is equally preposterous.

2. We should be able to recognize definitely those cases in which there is that form of chest and type of tissue, together with low vital index, lessened vital capacity, diminished respiratory expansion, perimeter below the normal, corpulence below standard, in which tuberculosis is very likely to develop. This should never be designated the pretubercular stage of tuberculosis.

3. We should also be able to recognize the probable occurrence of infection by the malaise, gradual loss of weight, sense of fatigue, upon slight exertion, digestive disturbances, hacking cough, occurrence of single or repeated hemorrhages, night sweats, increased frequency of low tension pulse, slight evening rise of temperature. In these cases the finding of a slight localized bronchitis in one apex or the slight early auscultatory signs alluded to, ought to enable us to make a correct diagnosis whether the tubercle bacilli are found in the sputum or not.

4. When the tubercle bacilli are present in the sputum there is no excuse for not making an absolute diagnosis.

5. In doubtful cases, the iodid test, and the tuberculin test, may be resorted to with confidence in their safety, efficacy and reliability.

6. But while we should and do welcome every new symptom, sign and method; and while we hail with joy every ray of new or additional light which will enable us to read the

symbolical language of disease aright, interpret the "handwriting on the wall," the great need of the hour is for men well trained in correct clinical methods, and in the art and science of physical diagnosis rather than the addition of new methods.

Dr. Robert H. Babcock indorsed in the main what had been said by the essayist, and called attention to the persistent lightness of weight presented by individuals who have a strong tendency to tuberculosis. Individuals of spare weight, who have an inherent tuberculous tendency, are not only of light weight, but they present a peculiar narrowing of the chest, or constriction of the apices, with lightness of bone structure. The pulse of incipient tuberculosis is accelerated and one of low tension and small volume. However, in some cases he has found tuberculosis in individuals whose pulse was not accelerated. In one case the pulse was 80, yet the patient had a marked lesion of the right apex with bacilli in the sputum. A temperature suspicious of tuberculosis is one between 99.5 and 100.5 F. An important point to remember is the facility with which it becomes accelerated on exertion.

Dr. Edward F. Wells believes there is no pretubercular stage in tuberculosis. He laid stress on the importance of fetor. Nutritional changes occur with loss of weight. Loss of weight is most marked during febrile attacks, and it is usually not regained. In cases of diffuse miliary tuberculosis, at least in some of them, attended with a good deal of fever, there is no expectoration, or no bacilli in the sputum. The diazo reaction is of certain value. The blood-count is likewise of value in tuberculosis. He has used the sphygmograph constantly for fifteen years, and he has yet to see a case of anemia of any sort, or a case of chlorosis, in which the pulse tension is not greatly reduced.

Dr. John A. Robison said that while he believes in the majority of cases the tubercular diathesis or tubercular predisposition is inherited, there are many cases in which there is a direct transmission of the tubercle bacillus from the parent to the child. The bacillus of tuberculosis may pass through the placental circulation of the mother to the child. The tubercle bacillus is found in glands and other tissues of children and adults who are apparently healthy. An early sign of incipient tuberculosis is the prolongation of the expiratory sound, heard on auscultation; *this sound is accompanied* by a rise of pitch. While he does not believe there is really a pretubercular stage, there is a stage which Hare calls the stage of hyponutrition. Lack of nutritive power occurs in persons whom we denominate as those having a tubercular predisposition.

St. Louis Medical Society.

CARCINOMA OF TONGUE: TOTAL EXTIRPATION.

Dr. A. H. Meisenbach presented specimens from a patient 65 years of age, strong in appearance, of good habits, who had smoked a pipe for many years. On account of the front incisor teeth in the lower jaw being defective, he had held his pipe well down in the floor of his mouth, mostly on the left side, and last October he discovered a nodule below the lower jaw-bone about an inch to the left of the symphysis. This grew and became painful, so he shifted his pipe to the right side. The tumor kept on growing, he consulted several physicians without results, and came to St. Louis for relief.

The patient was first seen in consultation with Dr. Henry Summa, on April 1. Examination revealed a very hard mass occupying the floor of the left side of the mouth, extending backward behind the base of the tongue; on the right side the floor was also infiltrated, extending only as far as the first molar tooth. The tongue was so bound down that the patient had no control over it. The body of the tongue did not seem to be involved. At the inferior margin of the jaw-bone, on the left side, about an inch from the symphysis, there was a fistulous opening. On pressing the floor of the mouth pus could be expressed from the fistulous tract. The diagnosis of carcinoma was made and operation suggested, but without any assurance of positive cure and no recurrence.

On April 3 Dr. Meisenbach operated, at the Pius Hospital, assisted by Drs. Henry Summa, Heideman, Auf der Heide and Robert Hughes, Denver, Colo. Under chloroform, a preliminary tracheotomy was made, low down. An ordinary large-sized No. 4 canula was introduced. The pharynx was tightly tamponed with iodoform gauze, shutting off the upper air-passage from the field of operation. Chloroform was administered through the tracheal tube, to the completion of the operation. A combined Kocher and Sedillot operation was done, the incision of the former extending from below the mastoid process on the left side to the greater cornua of the hyoid bone and parallel with it, about 1 cm. above it to the median line. The second incision (Sedillot) began about 1 cm. below the mucous margin of the lower lip—thereby saving the coronary arteries from being cut—in the median line, going down to the bone over the symphysis, and extending downward joining the first cut at right angles. The flap thus formed on the left side was dissected up to the inferior margin of the lower jaw, tying the facial artery and vein. The mucous of the lower lip was next cut away from the alveolar process in the median line. A key-hole saw was used to divide the jaw-bone through the symphysis, and both halves were pulled aside giving free access to the floor of the mouth. The operation was continued by using the scissors, cutting through the healthy tissue, beginning at the lower part of the mass above the hyoid bone and freeing it from below upward. During the dissection the lingual artery on the left side was exposed and tied. Having freed the tissues of the floor of the mouth from the left half of the jaw, the tongue could easily be drawn down into the floor of the mouth, with the scissors the tongue was cut across as near as possible to the epiglottis, leaving a bridge of tissue on the right side, in which was the right lingual artery. This bridge was clamped and the tongue cut away. The artery was tied. The jaw-bone was drilled and two silver wires introduced, bringing it again into place, the ends were left long and sticking out of the incision, so that the wires could be removed when the bone was united. The incision was united with a running suture of fine silk. Previous to suturing the wound the packing in the pharynx was removed and replaced by a fresh one, leaving the edges protruding through the fistulous opening below the jaw, the edges of which had been freely excised by the scissors.

Dr. Meisenbach said that the operation was practically a bloodless one, and, on account of the ease with which the anesthetic could be given through the tracheal tube, the pharynx being plugged, it was robbed of many of the unpleasant features that these operations sometimes give rise to if done without preliminary tracheotomy. The canula was left in the trachea, the pharynx kept plugged and the patient kept nourished by rectal enemata. The tracheal tube was removed and feeding commenced with the stomach-tube, on April 17.

The Doctor pointed out that, barring the recurrence of the disease, there are three sources of danger in the operation: 1, hemorrhage; 2, pneumonia; 3, sepsis.

It is of the utmost importance to have full control of the operative field. This can be done by such a method as he used in this case, preliminary ligation of the lingual arteries not then being necessary. Ligation of the arteries at best is tedious work and in this case would have been difficult on account of changed anatomic relations, due to the inroads of the disease.

VAGINAL EXTIRPATION OF THE UTERUS: FIBROMYOMA.

Dr. Meisenbach also presented a specimen of this, from a patient 55 years old, seen March 14. She complained of uterine hemorrhage, irregular in character—lasting three weeks at a time, stopping a few days and then coming on profusely. She weighed 250 pounds, so manual examination was very difficult. The uterus was large, freely movable, 5½ to 6 inches in depth. There was nothing suspicious about the os or vagina. On March 17 he made exploratory curettement. Microscopic sections revealed only endometres interstitialis. Packing and rest and hemostatics did not arrest the bleeding. Although microscopic examination was nil, this was not conclusive evidence that carcinoma could be entirely excluded.

At the menopause fibroids usually cease to give trouble, as well as hyperplasia, so the case was more or less obscure. The patient continuing to lose blood and beginning to feel its effect, he suggested operation, which was done April 5, at the Lutheran Hospital, by the vaginal route, on account of the thick abdominal walls.

Philadelphia County Medical Society.

April 11, 1900.

Dr. J. H. Musser, President.

SYMPOSIUM ON EMPYEMA.

DR. L. SHARP spoke of a patient who suffered from this condition as a sequel of pneumonia, was operated on and the abscess cavity drained for several months. Considerable discharge continued and another operation was done, when it was found that portions of two drainage-tubes had been retained within the abscess. These were removed and, after a considerable period, the man recovered.

PLEURAL EXUDATES AND PHYSICAL SIGNS.

DR. HERMAN B. ALLYN read a paper entitled "Pleural Exudates with the Physical Signs in the Lungs." He considers the most important physical signs as diminished or absent vocal fremitus, diminished or absent vocal resonance, tubular breathing, and displaced organs. Austin Flint has reported instances of pleural exudates in which the physical signs were variable. The speaker had treated a case in which there was flatness, increased vocal fremitus and subcrepitant râles. Movable dulness, and Skodaic resonance anteriorly are also very important physical signs. Puncture with a needle is always the most certain method of determining the presence of fluid within the pleural cavity. The aid furnished by a skiagraph is very great in some cases.

ETIOLOGY AND PATHOLOGY OF EMPYEMA.

DR. JOSEPH MCFARLAND read a paper entitled "The Etiology and Pathology of Empyema." He regards the condition as an infectious inflammatory process of the pleura, due to traumatism, local disease or to metastasis. As to traumatism as an exciting cause, the history in most cases would be hard to trace. As to local disease, tubercular abscesses were important. Metastasis may take place through the lymphatic channels, from an infectious process elsewhere. As to the bacteriology of the condition, in children the pneumococci, in adults the streptococci, have been most frequently present. Tuberculous empyema is not as common as generally supposed. In children the prognosis is generally favorable, while in adults it is grave. As a rule the left side is most often involved. The fluid aspirated may contain leucin, tyrosin, cholesterin, uric acid, pus cells, and blood. The pulmonary pleura is more frequently involved than the parietal. Spontaneous rupture generally takes place in the fifth interspace.

SURGERY OF EMPYEMA.

DR. EDWARD MARTIN spoke of the surgical treatment of empyema. The most important plan of prophylaxis is aspiration as soon as the fluid becomes purulent. The technic, while simple, is often carried out in a wrong manner. The sight of the wound should be in the eighth interspace, slightly anterior to the angle of the scapula. The parts should be anesthetized and an incision should be made through the skin with a tenotome, and then the trocar and canula inserted. The needle should not be thrust through the external skin. The Doctor has practiced aspiration and drainage with advantage. In some cases it would be advantageous to resect a portion of a rib. Small cavities may be packed with gauze. In old cases frequently the only relief is a resection of a portion of the chest so as to allow collapse of the chest walls. Serous effusion is best treated by aspiration.

DR. S. SOLIS COHEN spoke of certain difficulties met with in the treatment of special cases, and also the difficulties of diagnosis. In one instance three ineffectual attempts were made to aspirate, and afterward the person was anesthetized and the abscess opened. As to the prognosis, he knew of one case in which the tubercle bacillus was the exciting cause. An incision had been made over the abscess, causing it to drain for a period of several months. Later another one opened higher up in the axilla. After a period of six years the patient is still living. In the speaker's opinion the most favorable cases are those following pneumonia.

DR. L. BRINKMANN said he generally uses the antitoxin needle half filled with normal saline solution. He believes that irrigation of the cavity would rather increase than decrease the amount of discharge. In resecting a rib the patient will often cough violently, tearing apart new adhesions, and this is a disadvantage.

DR. W. E. HUGHES stated that tubular breathing is nearly always associated with pleural effusions, and this seems to be more fully recognized by the English than the American physician. The tubular breathing in pleurisy is different from that of pneumonia, in that the former is more insistent and superficial. As a diagnostic sign he regards displaced organs as of the greatest importance. In aspirating he would not depend on a hypodermic needle, as the orifice is too fine to permit of thick pus escaping into the barrel of the syringe. He believes that all cases of empyema should be drained early, and further that all the fluid possible should be removed at the first operation.

DR. MORDECAI PRICE spoke of the condition when the abscess is sacculated. He believes in resecting a rib, washing with boric acid solution and inserting a double drainage-tube.

DR. W. L. RODMAN spoke of the case referred to by Dr. Cohen. To say that most cases of empyema and pleurisy are of tuberculous origin he regards as an error. He does not insist on resection of a rib, but has found that thoracotomy often gives relief.

DR. H. R. WHARTON agrees on early operation in these cases. He does not believe that resection of a rib is always necessary. Drainage-tubes will often accomplish the same purpose. He has changed his mind in regard to the teaching that most cases of empyema are of tuberculous origin.

ELEPHANTIASIS OF LEG.

DR. DAVID RIESMAN, through Dr. Eshner, presented a case of elephantiasis of the leg, in a man of middle age, who had suffered from measles and pneumonia; eight years ago he had a severe fall down stairs. He is a foundryman, and his present illness dates back to four years ago, when he observed enlargement of the left leg, at first painful, especially during certain changes of the weather. He also suffered from pains in the abdomen. Some time after the process began in the left leg the right became much swollen, and is now the larger of the two. The skin is cold and dry, and does not pit on pressure. For relief of pain, 5-grain doses of antipyrin have been given. Several attempts have been made to detect the filaria sanguinis hominis, but without results.

Detroit Medical and Library Association.

April 23, 1900.

TWO FATAL CASES.

DR. D. M. CAMPBELL read a paper with this title. The first case was in a girl of 12, who had been in her usual health up to February 10, when her parents noticed a small pimple on her forehead. This was ruptured the next morning, by the child, and a very small quantity of pus was evacuated. Late that afternoon she had a chill followed by fever. On the following morning the family physician was called. Besides a temperature of 104 F., a pulse of 140 and the general symptoms accompanying fever, the right eyelids were swollen and there was exophthalmus. At 4 p. m. the temperature was 106 F. and the pulse 160. The other conditions were more marked. Dr. Campbell was called as consultant, and at 10 p. m. found a temperature of 105 F. (axilla), the pulse too rapid to count, the patient comatose, widely dilated pupils, enormous exophthalmus on the right side, and great puffiness on the eyelids. No pus was reached through the deep incisions made into the orbital cavity. The child died the next afternoon.

The second patient was suffering from double phlegmonous orbital cellulitis. Great quantities of pus and necrotic tissue were evacuated through free incisions made deep into the orbital cavity. In spite of this the patient died comatose, showing all the evidences of a general septic infection.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
61 MARKET STREET, - CHICAGO.

SATURDAY, MAY 12, 1900.

EFFECTS OF REMOVAL OF LARGE PORTIONS OF THE DIGESTIVE TRACT.

The tolerance of the human body to surgical intervention and aseptic traumatism, without excessive hemorrhage or shock, is at times quite remarkable. Anatomic structure seems to be so organized and physiologic function so adjusted that there may be compensation for even extensive destruction or ablation of tissue. The records of surgery contain numerous instances in which large portions and even the whole of organs considered vital have been removed by accident or design and life has been preserved. Thus, the kidney, the spleen and the stomach have been removed entirely and successfully. Large portions of liver and of intestine, and considerable portions of brain have been exsected with relatively little inconvenience. It can be readily understood that if excessive amounts of the digestive tract be removed death may result from inanition, although it has not been definitely determined what amount of loss can be tolerated. It has been thought that removal of more than one-third of the small intestine is dangerous to life, causing fatal marasmus after a time, although in some experimental observations on animals resection of half the small intestine was well borne. It has been found that the results of resection of the beginning of the jejunum are more serious than those of resection of more distal portions of the bowel. A not inconsiderable number of cases are on record in which more than one meter of small intestine has been removed from human beings. The operation was survived in the majority of cases, and in most digestion was not notably impaired. In a small number, more than two meters of small intestine have been removed, but in most of these digestive disorder followed. To the cases already reported Schlatter[1] adds another in which he resected about two meters of small intestine. The patient was a strongly built, well-nourished man, 23 years old, who received a stab-wound in the hypogastric region and immediately fell to the ground, the intestines protruding from the wound. With aid, the man walked a distance of 320 yards, and in a short time a temporary dressing was applied. He was received at the hospital eight hours after the infliction of the injury. After removal of the dressing, about two meters of small intestine were found lying in the right hypogastric region, the greater part of which varied in color between deep dark blue and black. The serosa was lusterless. The protruding intestine was tightly grasped within the small wound and in places undergoing necrotic change, and resection was with some difficulty effected. The removed portion of bowel measured 92 cm. in its shortest length. The further course of the case was complicated by an attack of urticaria. The patient drank tea on the day of the operation, ate fried sausage on the seventh day, and was on a full diet on the twenty-fifth. He was permitted to stand on the thirty-first day, and was discharged cured on the fifty-ninth, having gained nearly 24¼ pounds in weight in the course of four months. A study of the digestive processes showed that while nitrogenous assimilation was not seriously interfered with, that of fats was considerably impaired. Later reports concerning the patient, some eight months after the operation, indicated that he could do but little work and this but slowly and with many intervals for rest. He lived principally on broths, soups and animal food, and was quite unable to tolerate solid food. He had lost a slight amount in weight. This case would seem to show that the process of digestion may be seriously interfered with, even in young robust patients, by the removal of more than two meters of small intestine, unless precautions are taken to secure the requisite sustenance.

PSYCHIC SARCOLOGY ET AL.

Along with the delusions of osteopathy, Weltmerism, goats' lymph, etc., we have from Missouri still another, "Psychic Sarcology," which is notable if only for its name. It would appear to be a sort of nomenclatory misfit, but it doubtless has its utility—"words of long length and thundering sound" sometimes take in more than the simple rustics. It is only one evidence, however, of the tendency to which the other medical delusions mentioned above, together with Dowieism, and the generally pervasive "Christian Science," are witnesses—the aptitude of fallen man to go after false gods in medicine, religion and efforts at social regeneration. Just at the present time this tendency seems unusually rampant, and the reason why this "craze of quackery" exists has troubled some of our contemporaries. If we were to attempt to answer the question, we could suggest several reasons why. While science has advanced, especially in its practical applications, more during the past century than in the centuries before, the mental development of man as a species has made no such remarkable strides. We have now living no greater thinkers than those of the remote past; we have accumulated facts but do not handle them in all respects any better than did our predecessors. The universal vulgarization of science has neither made a race of philosophers nor necessarily bettered the average human power of judgment, but it has perhaps spread broadcast the little knowledge that is a dangerous thing. It is a question whether or not modern methods of education, with their intensely practical side, are really better for turning out cultured and well-balanced men and women than the old limited classical ones, which none can honestly deny had some real educational and disciplinary worth. It is said too, on every hand now, that there is a decay of faith, that religion has lost some of the hold it formerly had on the masses of mankind. If these things are so, and they may be to some extent, it is no great wonder that false systems prevail; when man loses his faith it is not in his nature to depend on himself, and he must therefore take up with superstition of some kind or other. Science, falsely so-called, is the most convenient idol of the day, whether it be in the form of Eddyism, Dowieism, Ingersollism, or any other heterodoxy that is in fashion at the time. There is also a great deal of what Sir Michael Foster has called "blatant science that is worse than the superstition at which it scoffs," and its effect is too often to only prepare the way through unfaith to the most aberrant form of belief. The discontent so prevalent at the present time is another factor, though perhaps a less direct one, in bringing about the special evils here in question. It is not altogether the healthy discontent that tends toward progress, but is the destructive one based on envy and the meaner impulses that in the species reverts to savagery. Our civilization is after all only skin deep with a large proportion of the population, who only need the veneer rubbed off to fit in with and take up any fetish that may present itself. Just now there is too much useless suffering with the itch of discontent, and when, as a popular writer has said, our whole civilization begins to scratch itself it is a serious matter.

---

[1] The Lancet, January 27, p. 217. The Journal, February 17, p. 419.

Taking all things into consideration it is not so difficult to see a possible reason why quackery should flourish at the present time, and especially why the special medicoreligious frauds of the day should exist. There is, however, no reason for pessimism as to the future, the world will not retrograde into barbarism and superstition, and we are not on the threshold of a second Dark Age. The disturbing present conditions so far as they exist are, we trust, only ephemeral, and while there will probably always be some quackery, we have for our comfort the truth enunciated by Mr. Lincoln, that it is impossible to fool all the people all the time.

THE CLASSIFICATION OF TUMORS.

The modern doctrine of tumors rests wholly on the basis of histogenesis. Some of the shortcomings and the objections to the present embryologic classification of tumors are noted by Klaatsch[1] and by Charles Powell White.[2] The former points out some of the inconsistencies which are creeping into our classification, and that the distinction between mesodermal and other structures of the body is in reality not as hard and fast as it is usually drawn. White emphasizes the fact that the developmental origin of some parts of the body is not yet fully explained; the present onkologic classification separates tumors that are not distinguishable histologically, such as some forms of carcinoma and endothelioma; some authors, for instance Ziegler, class tumors of epiblastic origin—the gliomas or neuro-epitheliomas—among the mesoblastic ones. In order to overcome these inconsistencies, and also in order to avoid all theories as to the as yet unknown etiology of tumors, White proposes a purely morphologic grouping and definition. He defines a tumor as "a mass of cells, tissues or organs, resembling those normally present in the body but arranged atypically, which grows at the expense of the organism without at the same time subserving any useful function therein." This statement seems a serviceable one. It seems to include all tumors and to exclude retention cysts, hypertrophy and hyperplasia, and also inflammation, because the inflammatory processes are held to be adaptive and useful changes. White divides all tumors into three classes, viz.: 1. Organ tumors—the teratomas of the present classification. 2. Tissue tumors, which include all so-called benign or simple tumors of epithelial or mesoblastic origin. 3. Cell tumors, i. e., the sarcomas and carcinomas. The present classification of tumors on the basis of embryologic origin may be imperfect and difficult of application in special cases, and while it in a measure involves a theory as to the origin of tumors, yet the study of their histogenesis incited by this theory has borne rich fruit, as perhaps shown more especially by the remarkable and partly quite recent developments in regard to adrenal tumors of the kidney, the adenomyomas and other tumors of the female genital structures, the neuroepitheliomas, and the embryonal adenosarcomas of the kidney. A theory which has given rise to so many important discoveries should not be too hastily discredited or abandoned.

THE LYMPHATICS OF THE LUNG.

Councilman[1] *points out that the lobule of the lung* constitutes a definite unit in its anatomy, normal and pathologic. The outlines of the lobules are seen most perfectly on the pleural aspect of the lung; they are triangular, the base corresponding to the pleural surface, and are separated from one another by small strands of connective-tissue which forms either a complete investment of the lobule or is in places wanting. At the apex the bronchus and the artery enter. The small areas supplied by the terminal branches of the bronchus are commonly called "acini," though Miller has designated them lobules, but the use of the term lobule in this sense can be at once seen to be confusing. The bronchial passage ends in an atrium, thoroughly described by Miller, from which the air-sacs or infundibula are given off, and from these arise the air-cells or alveoli. Councilman emphasizes the importance of this atrium because it is the starting-point of the focal pneumonias of children.

Accompanying the bronchial branches are branches of the pulmonary artery; a small amount of connective tissue accompanying the arteries, maintaining some connection with the perilobular connective tissue; veins are also found in the fibrous septa, the largest at the periphery of the lobules. In focal pneumonia of children Councilman found the lymphatics distended so that they could be followed with ease. They are described as originating about the acini, and divided into two sets: 1. A central, running along the pulmonary arteries and emptying directly into the peribronchial glands at the root of the lungs. 2. A set which ramifies in the interacinous and interlobular septa and empties into the pleural lymphatic plexus. The second set is the more extensive; its vessels are provided with valves which point toward the pleura. When a smaller vessel enters a larger, the walls of the smaller project for some distance into the lumens of the larger, forming an effective valve. These interlobular lymphatics are important because it is probably through them that infections in the center of the lung extend to the pleura. They also play a prominent rôle in the absorption of exudates and in the removal of organisms entering the lungs.

---

[1] Münch. Med. Woch., Feb. 7, 1899.
[2] Jour. of Path. and Bact., 1899, vi, 220.

[1] Jour. Boston Soc. of Med. Sci., 1900, iv, 166.

The central lymphatics are large vessels which often become greatly distended in pathologic conditions. Small branches from the peribronchial tissues and probably also from the tissue of the acini open into them. Councilman did not find valves in the central lymphatics, but he thinks they are probably present; neither has he found any connection between the central lymphatics and the peri-arterial, but it is reasonable to suppose that such exists.

A TRAITOROUS HOSPITAL CORPS.

The *New York Medical Journal* comments with deserved severity on the treason, to the Geneva Cross, of a so-called hospital corps that went from this country to the Transvaal. No censure can be too strong for men who thus violate their voluntarily assumed obligations, nor, whatever our sympathies may be in other regards, can we justify the Boer Government for accepting them as militant recruits. It is said that the Boers as a class have a distrust of medical assistance from the outside and it is hinted, we hope unjustly, that they encouraged rather than otherwise the transformation of a hospital into a combatant force. So far as the facts have come to us there is enough to suggest greater care in those who have influence or interest in the international Red Cross movement in endorsing or recommending volunteer hospital corps for the present war, unless they go under particularly well-known and reliable auspices.

MEDICAL PRACTICE LAWS.

The efficient working of the new medical registration law of Michigan has been materially aided by a recent decision of the supreme court of the state, noted in our news columns last week. A graduate of a "fake" medical college obtained registry under the old law and has contested the right of the State Board to refuse him this under the law now in effect. The case was made a test one and the decision is that although registered under the old act he was not legally entitled to that registration, because the affidavit on which it was based did not show him to be duly qualified. It is said that about 780 so-called physicians will be ruled out by the decision, most of them holding diplomas from the Armstrong-Bland "Independent Medical College," though there are two other similar concerns that also appear to have done a thriving business. The authorities appear to be thoroughly in earnest in enforcing the law, and this will be very much to the advantage of the profession in Michigan, though much more needs to be done to bring the state up to the standard that is the ultimate object of the best wishers of our profession. It is, however, a step in advance, and will be followed later by others. In this connection it may be remarked that in Rhode Island, the only remaining New England state that admits to practice on a diploma, legislation is now pending to bring it abreast of its neighbors in this respect.

MEDICINE AND MISSIONS.

Among the subjects of interest discussed in the recent missionary conference in New York City was that of medical missions and their advantages in aiding mission work among the heathen, noted in our columns last week. It was the unanimous testimony that in this way, often before any other is opened, a successful attack on the strongholds of heathenism can be successfully inaugurated. That this must be so is self-evident; the wonder is that mission boards were so long in adapting this for their purposes. Amongst savages and unenlightened people generally, including the degenerates who take up with "Christian Science" and Dowieism, the healing of the body and the healing of the soul go together—the shaman, the sorcerer and the priest have alike the control of health here and hereafter. The destruction of the old faith and its replacement by the new can be no better aided by purely human agency than by the introduction of scientific medicine and surgery, hence the value of medical missionaries. That they can not always overthrow error proves nothing; medical science fails in this even in the most civilized Christian countries; the mental peculiarities that even the gods strive against in vain exist everywhere. But as a material accessory to mission work medicine must always take first rank, and as a profession we should be interested to have it always thoroughly representative of our best.

THE FUTURE OF THE NEGRO.

In an address delivered before the Tri-State Medical Society of Virginia and the Carolinas, Dr. Paul B. Barringer very forcibly presents his views on the medicosociologic aspects of the negro question in this country. He thinks the negro is, under present conditions, rapidly reverting to savagery, that the future of the country is in peril and that "unless a brake is placed on the ontogeny of this savage, the South will be uninhabitable for the whites." The picture he draws is a dismal one; we prefer to see a brighter possibility ahead, and hence are glad to be able to correct one or two of the premises on which his conclusions are based. He thinks that the negroes in the large Northern cities are not advancing as compared with those of the country districts of the same sections. It is true that they include many disreputables, but it would, we believe, be an error to say that they are retrograding, and the careful studies by students of degeneracy reveal a prevalent type that, as far as physical stigmata are concerned, is a marked advance on the African and the southern field negro. One negro regiment recruited from these Northern negroes and officered by men of their own color made a record in service during and after the late war that ought hardly to fall under his wholesale condemnation of such organizations. The northern negro, city or country, is very far from being altogether what he ought to be, but he presents no very serious problems. In the South the vast number of the blacks renders the more serious aspects of the subject more prominent, and it is perhaps not surprising that pessimistic views are sometimes expressed. There may be in places a segregation of the blacks and some undesirable developments, but never a Hayti under properly supported Anglo-Saxon laws and institutions. The Jamaica negro is not always a pleasant individual, but he is not a Haytian. The development of the South will, we believe, bring out some interesting anthropologic evolutions that will be well worthy of study, but it does not seem that the future of the white race is in danger.

REDUCTION IN MORTALITY IN DIPHTHERIA IN AUSTRALIA DUE TO USE OF ANTITOXIN.

We have had so much to say on the subject of the treatment of diphtheria with the antitoxin that we hesitate to reiterate our position in this connection, but we feel that the truth can not be too securely driven home and that even yet some lives are needlessly lost that antitoxin could save. Statistics—the brute force of figures—and personal experience alike testify most eloquently to the efficacy of this method of treatment, and the saving of life thereby accomplished must forever stand as a monument to the scientific acumen and the unselfish devotion of a profession always distinguished by high motives and noble ideals. Some additional statistics of an interesting character in this connection are presented in a recent communication by Turner,[1] who reports the results of a study of the mortality from diphtheria in the three principal Australian colonies, Queensland, New South Wales and Victoria, for fifteen years, with especial reference to the influence of the antitoxin on the death-rate. In the eleven years preceding the introduction of antitoxin—from 1884 to 1894—the number of deaths from diphtheria and croup per hundred thousand in Queensland varied between 65.3 in 1885 and 35.8 in 1894, the mean annual death-rate per hundred thousand being from 1884 to 1889, 49.2, and from 1890 to 1894, 44.1; while during the four years of antitoxin-treatment, from 1895 to 1898, the number of deaths from the same diseases per hundred thousand varied between 21.2 in 1895 to 12.9 in 1896, the mean annual death-rate per hundred thousand from 1895 to 1898 being 16.4. In New South Wales the number of deaths from diphtheria and croup per hundred thousand between 1884 and 1894 varied from 62.8 in 1885 to 27.8 in 1886, the mean annual death-rate per hundred thousand being, from 1884 to 1889, 43.2, from 1899 to 1894, 47.7 and from 1895 to 1898, 18.4. In Victoria the number of deaths from diphtheria and croup per hundred thousand varied, between 1884 and 1894, from 92.2 in 1890 to 15.6 in 1893, the mean annual death-rate per hundred thousand being, from 1884 to 1889, 45.4, from 1890 to 1894, 39.8 and from 1895 to 1898, 19.7. In all three colonies the number of deaths per hundred thousand between 1884 and 1894 fluctuated between 72.6 in 1890 to 29.7 in 1894, the mean for the eleven years being 44.4, while the number of deaths per hundred thousand between 1895 and 1899 varied between 19.9 in 1898 and 16.4 in 1896, the mean for the four years being 18.7.

HEMISYSTOLE.

This designation has been applied to a condition in which it is supposed that there exists asynchronous action of the ventricles of the heart, so that with each contraction of one ventricle, one or more contractions of the other take place. The evidence as to the actual occurrence of such a phenomenon is, however, not conclusive. For obvious reasons the demonstration can only be made by experimental means, but the observations that have thus far been recorded in this connection are not wholly free from criticism. For these reasons Frank and Voit[1] undertook an investigation of the subject with the aid of specially devised apparatus. They employed a rubber manometer and made their observations on rabbits and dogs. Narcosis was induced by curare, the thorax opened in the middle line and a small, curved metallic catheter introduced through the left auricle and fastened into the left ventricle, while a straight metallic catheter with lateral fenestra was introduced through the jugular vein into the right ventricle. Both catheters were connected with rubber manometers, as was also a canula fastened in the carotid artery. In accordance with previous statements attempts were made to induce hemisystole, in part by means of suffocation and in part by means of poisoning with helleborein. Marked irregularity in the action of both ventricles, such as could be designated hemisystole, was, however, not noted in a single instance in either rabbits or dogs, although the observations were continued for long periods of time. Almost unexceptionally the pulsations of both ventricles were synchronous throughout, and each variation in the pressure curve of one ventricle was exhibited by that of the other. In some instances the carotid pulse failed, although that of the ventricles remained normal. Occasionally also there was slight disparity in the maxima of successive pulse-waves. These observations would seem to demonstrate that the condition of hemisystole does not develop under the influences to which it has been attributed, and it is thought that the designation is unjustified.

HYPERTHERMIA AND HYPOTHERMIA.

In spite of the fact that physiologists state that life can not be maintained for any length of time at temperatures above 110 or below 90 degrees, reports of both higher and lower figures are made from time to time, and often one is perplexed for an explanation. In some instances deception is obvious, and in others it can not be wholly excluded, but, even allowing for these, there still remain a number whose authenticity can not be doubted. The evidence, so far as it goes, would therefore seem to prove that extremes in either direction are possible, though, naturally only for brief periods. ypot[illegible] ve not been wanting to explain the mechanism of heat-regulation, but the problem is not easy of solution and the final word has not yet been said in this connection. In the familiar case of Teale, in which a lesion of the cervical spine was present, the temperature reached 122 F. Jacobi has recorded the case of a hysterical fireman in whom a temperature of 148 degrees was observed, Jones one of a girl in whom the temperature rose above 150, and Galbraith one of a young woman in whom he noted a temperature of 151; and in the same case a nurse noted one of 171. It is noteworthy that many of the cases of hyperthermia have occurred in malingerers or hysterical women or men. Not less remarkable observations of hypothermia have been recorded, a number of which are recited in a communication by Hulbert,[1] in which he reports a most remarkable case of morbid drowsiness in a man, 36 years old, in whom the rectal temperature fell as low as 81.6 degrees and on numerous occasions was under 90. Such hypothermia has been variously observed by others in connection with shock, collapse, as in cholera and pernicious malarial fever, with disease or injury of the spine or brain, with inanition, hemorrhage, chronic wasting disease, like carcinoma, with intoxication. as with alcohol, carbolic acid, uremia, with diseases of the skin as sclerema, and with heat-exhaustion.

---

[1] Intercolonial Med. Jour. of Australasia, January 20, p. 39.

Deutches Archiv. f. Klin., B.

THE IODIN REACTION OF SPERMATIC FLUID.

There are times when the determination whether spots on linen are due to seminal fluid or not may be of the highest medicolegal importance, and a method would be welcome that will permit a ready and reliable decision. Florence assumed that the seminal fluid may contain specific alkaloidal substances, and in order to determine this point undertook a study of the effect that the alkaloidal reagents would have on human spermatic fluid. Using a solution of iodin and potassium iodid he was able to obtain a reaction only when the iodin was present in amount sufficient to correspond to a solution of potassium tri-iodid. For this purpose he used 1.65 grams of iodin and 2.54 grams of potassium iodin to 30 grams of water, and added 1 drop of this solution on a glass slide to a watery extract of seminal stain. In the course of a few minutes there appeared brownish microscopic crystals, closely resembling hemin crystals and, like these, appearing in typical form as rhombic plates, together with numerous rudimentary forms. No other secretion, as well as brain-substance, alkaloids, dough, articles of food and spermin, yielded a similar reaction, but only lecithin and cholin did. It was believed that possibly the reaction was due to some previously unknown body peculiar to seminal fluid, but in view of the reaction yielded by cholin and lecithin it was deemed wise to employ the test as a preliminary one, and when it yielded a positive reaction to search for spermatozoids. Subsequent observers, however, obtained a similar reaction with spermin, muscarin, derivatives of nuclein and of uric acid, and still others attributed it to cholin and lecithin. In view of these rather radical differences of opinion Vertun[2] undertook a series of independent observations. A quantity of seminal fluid was added to a mixture of alcohol and ether, the supernatant fluid decanted, the extract precipitated with an acid alcoholic solution of platinum chlorid, the filtered alcoholic solution of platinum chlorid, the filtered precipitate dissolved in water and permitted to crystallize obtained in this way were placed on a filter and washed with a mixture of alcohol and ether until the wash-water was colorless, for the removal of the excess of platinum chlorid. The filter was then placed in a vacuum-exsiccator. In one case in which seminal fluid twelve hours old was examined crystals remained, indicating the formation of a double platinum salt of an organic base, and thus the presence of another base besides spermin. In two other cases, in which the seminal fluid was only a few hours old, no crystals remained, so that no other base and, therefore, not cholin, was present. As the reaction of Florence was present in all three cases it can be attributed to spermin, although in the one instance it may have been intensified by the presence of cholin. Inasmuch as the reaction has been yielded besides by members of the cholin group—cholin, muscarin, neurin—by spermin and by derivatives of nuclein or alloxuric bases—adenin, xanthin, hypoxanthin, guanin, carnin—it must be looked on as belonging to a group of substances and particularly a large number of organic bases. In view of these facts the development of the reaction with a watery extract from spots on linen would not indicate conclusively the presence of seminal fluid, but would necessitate microscopic examination for spermatozoids; nor would its failure to develop be sufficient to exclude the presence of seminal fluid. It was found further that the reaction was prevented in direct proportion to the albuminous concentration of the fluid tested.

URIC-ACID AUTOINTOXICATION.

Although much has been written on the subject of uric acid, it can not be said that there is universal agreement as to its influence in the causation of disease, or as to the means of affording relief from its reputed manifestations. While perhaps our present nomenclature may prove to be incorrect and current explanations inadequate, it is safe to assume that certain derangements in metabolic activity are capable of bringing about morbid manifestations of a more or less definite and sometimes even alarming character. Of this we have evidence in the development of gout, of diabetes, and of the condition or process that correctly or incorrectly, it is customary to speak of as uric-acid intoxication. Care must, however, be taken not to generalize too freely on the basis of scant knowledge of a precise character. The individual factor should never be forgotten or ignored, and a growing experience teaches that the reactions that take place in the body can not always be reproduced in the laboratory. Uric acid may appear in the urine of persons under widely different conditions—on a diet of milk, as well as on one of meat or carbohydrates; in those who abstain from, as well as in those who indulge in, alcohol; after exercise, as well as after rest—so that one is often at a loss for an explanation of its occurrence. For the present we must be satisfied with the statement that this represents an aberration in metabolism; but the patient is not so much concerned with the mechanism of the process as with the treatment, or rather with its results. Some interesting observations of an original character were made in this connection in an address delivered a short time ago by Goodhart,[1] before the Reading (England) Pathological Society. He expressed the conviction that in the majority of cases of uric-acid intoxication the condition is scarcely one of diet at all, as uric acid will sometimes appear in the urine when, so far as is known, all food capable of giving rise to it has been withheld. Uric acid is considered as an ash or a final product common to the many metabolic processes that take place within the body. In one case the cause may be the visceral sluggishness that is the common outcome of nervous exhaustion; in another the hereditary condition that determines gout; in still another a great or a sudden shock or great anxiety or exhausting illness; in others some early defect in the kidney; in others it may be an indication of senility and of a failure on the part of the organism to accommodate itself rapidly to various changes in its environment. The important part in the arrangement of a dietary is first to determine the metabolic capability of the individual. Thus, under suitable conditions even sugar and fat and alcohol in one form or another may be permitted. The object of treatment should be, so far as possible, to prevent the formation of uric acid rather than its elimination. The free drinking of water is a most useful measure, not only flushing out sand in the urinary passages, but also softening and disintegrating small calculi.

---

[1] The Lancet, January 13, p. 84.

[2] Centralbl. die Krankheiten der Harn- und Sexual-Organe, B. ix H. 1, p. 1

Medical News.

Dr. Gegenbauer, professor of anatomy at Heidelberg, has been awarded the Vohlbrecht prize of 12,000 marks for works on natural science.

Composition of Oleomargarin.—Secretary Wilson, of the United States Department of Agriculture, is making an effort to determine the ingredients which go toward making oleomargarin. It is believed that much of what is sold as pure butter is made from a mixture of cheap fats and tallow, together with deodorizing substances and artificial coloring matters.

Committee Appointments.—At a meeting of the American National Committee of the XIIIth International Medical Congress, held at the Cosmos Club, Washington, D. C., May 2, with Dr. W. W. Keen in the chair, the secretary read the minutes of the preceding meeting and reported that about two hundred American physicians had already joined the Congress. It was unanimously voted that the president of the American Medico-Psychological Association be added to the Committee, and that the organizations whose presidents compose the Committee be requested to contribute to the expenses of the Committee. The meeting adjourned subject to the call of the president.

Invitation to International Dermatological Congress.—At the meeting of the American Dermatological Association, just held in Washington in connection with the Congress of American Physicians and Surgeons, a committee was appointed consisting of Drs. J. Nevins Hyde, of Chicago, Henry W. Stelwagon, of Philadelphia, and T. Caspar Gilchrist, of Baltimore, to represent the Association at the International Dermatological Congress which meets in Paris in August. The committee is to extend an invitation, in the name of the Association, to the members of that Congress to hold the next international meeting in New York City. It was further instructed, in the event of the Congress giving a favorable response, to present the name, and urge the election, of Prof. James C. White, of Boston, the first president of the American Dermatological Association, and an honorary member of the French and Italian Dermatological societies, for the presidency of that Congress.

Progress of the Plague.—Having one of the best harbors in the world, Sydney, N. S. W., acts as a shipping center for the South Sea Islands, and a correspondent writes that the plague is thus thought to have gained entrance from one of the New Caledonia group. Up to the date of writing (April 11), 94 cases were reported, with 31 deaths. All cases, with one exception, were in English-speaking people, the exception being in a Chinaman, and all but one can be traced to the original plague center around the wharves. Among other sanitary measures in progress, 28,600 rats were destroyed. It has also been demonstrated that the flea acts as a means of inoculation, and 4 cases are reported, all showing blebs, the result of flea bites. In three the blebs were broken before examinations could be made, but those from the other patient showed the bacilli of plague present. Plague serum has been used in about 1200 contacts. Cases of plague are also present in Melbourne, Perth West and Brisbane. According to the *British Medical Journal* (April 28), the deaths from plague in Bombay city showed an increase for the first week in April over the last week in March. For the first 4 days in April, in Karachi, the new cases were, respectively, 49, 31, 54 and 60, and the deaths, 34, 28, 33 and 42. For the same dates, in Calcutta, they were, 111, 109, 93 and 103, and the deaths, 99, 109, 104 and 89. One new case was reported in Mauritius for the week ending April 19.

Medical Service in Transvaal War.—S. Osborn, chief surgeon of the Metropolitan Corps of the St. John Ambulance Brigade, speaking of the hospital arrangements in South Africa (*The Lancet*, April 21), says that the war has upset many of their former ideas as to military surgery, because many seriously wounded men, suffering from injuries which would, ordinarily, have demanded operative measures, have recovered without surgical interference. While this might have been due either to the excellent antiseptic dressings adopted as first aid on the field, or to the nature of the projectile, he is inclined to think it is because of the antiseptic precautions. The ambulance and nursing organizations, in point of comprehensiveness and efficiency, he considers far beyond anything of the kind previously seen; and though he served in the Franco-German War, in the wars between Russia and Turkey and between Turkey and Greece, he says that never was the effort to save the lives and limbs of the wounded made on anything like the extensive scale found in South Africa to-day. In regard to the rescue of the wounded, the devotion shown by the ambulance section of the British army, and the completeness of the machinery by which the efforts have been aided, is most admirable, since every engagement has witnessed scenes of heroism in which the officers of the Royal Army Medical Co[illegible] d their [illegible] have themselves suffered woun[illegible] th in [illegible] arge of their duties. As to [illegible] at N[illegible] per 1000 of those inocu[illegible] r 10[illegible] inoculated suffered fro[illegible] and[illegible] of this he considers th[illegible] ure

---

[1] The Lancet, January 6, p. 1; The Journal, January 27, p. 225.

NEW YORK.

The sixty-ninth commencement of the Albany Medical College was held May 2. The class numbered twenty-five and is the last to be graduated under the three-year course. The address was made by Dr. Jas. H. Canfield, librarian of Columbia University, and Rev. Dr. Raymond, president of Union University, conferred the degrees.

New York City.

Rev. George F. Clover, who has been connected for a number of years with St. Luke's Hospital, has been appointed pastor and superintendent to fill the vacancy caused by the retirement of the Rev. George S. Baker, previously noted in The Journal.

A fire in the industrial school on Randall's Island recently caused a panic among the inmates of the Children's Hospital and neighboring institutions. The school, which was a one-story frame building, was burned to the ground, but the fire did not spread to the adjoining buildings.

NURSES' CONVENTION.

About one hundred superintendents of training schools for nurses have just held a convention in this city, and during the three days they were in session discussed various topics connected with the training of nurses. Special attention was given to a consideration of the advisability of increasing the course of study to three years, fifty schools having already done so. They also adopted the following resolution:

Resolved, That this society strongly indorses the principles set forth in the Army Nursing bill recently brought before Congress, and pledges itself to use every effort to further the objects therein set forth.

HONOR DR. JACOBI.

A complimentary dinner was given to Dr. A. Jacobi on the evening of May 5, in commemoration of his 70th birthday. Dr. Joseph D. Bryant presided, and among those who responded to toasts were Carl Schurz; Seth Low, president of Columbia University; Dr. William H. Thomson, president of the Academy of Medicine; and Dr. William Osler, of the John Hopkins University. A notable feature of the evening was the presentation of the "Festschrift," a volume of 500 pages entitled "International Contributions to Medical Literature." This book is modeled after those annually presented to European scientists on similar occasions. For many years Dr. Jacobi has been widely known as an authority on the diseases of children, but particularly since 1870, when he became clinical professor in that department of the College of Physicians and Surgeons.

PENNSYLVANIA.

Eleven cows near Spring City were recently declared infected with tuberculosis and ordered killed.

Land valued at $25,000 has been left to the Sisters of St. Francis, for the establishment of a hospital for convalescents on the hills adjacent to Bridgeport. The proposed building will be constructed of gray stone, and when finished will cost in the neighborhood of $75,000.

PREVENTION OF INFECTIOUS DISEASES.

The annual report of Dr. Leonard Pearson, state veterinarian, and of the State Live Stock Sanitary Board, has been submitted to the Secretary of Agriculture. Of the $40,000 allowed the Board, $26,992.98 was paid for the destruction of tuberculous cattle; $233.50 for horses and mules suffering from glanders; $5692.03 for tuberculin tests and inspection of animals; $2906 for inspections, vaccinations, etc.; $3286.46 for animals afflicted with other diseases than glanders and tuberculosis, and $889.48 for special services in connection with the enforcement of the law regarding the prevention of diseases among cattle. There were 9 cases of glanders reported during the year. Anthrax occurred in the following counties: Bradford, Cambria, Chester, Delaware, Franklin, Jefferson, Monroe, Philadelphia, Pike, Potter, Susquehanna and Warren, with 236 deaths from the disease. Rabies was reported from 12 counties: Allegheny, Berks, Blair, Center, Chester, Clearfield, Clinton, Delaware, Erie, Montgomery, Philadelphia and Union. The number of tubercular cattle found was 1187. They were paid for at $22.30 a head.

Philadelphia.

Dr. Joseph Goldberquer has been appointed assistant to Dr. T. F. Richardson, medical officer in command at the Reedy Island Quarantine Station of this city.

During commencement week, a well-designed bust of the late Dr. George B. Wood, formerly professor of the practice of medicine in the University of Pennsylvania, will be presented to the University.

Suit for $25,000 has been entered against Dr. Charles W. Dulles, to recover damages for illegally declaring the plaintiff insane. It is stated that the Doctor has a complete defense to all the charges made.

The committees on elementary schools and hygiene, of the Board of Education, recently adopted a resolution recommending that regular instruction be given in physical culture in the elementary schools and that a teacher be appointed to take charge of such work at a salary of $1200 a year, beginning next September.

MARYLAND.

Dr. Geo. W. Simmons has been appointed physician to Kent County Jail, at Chestertown.

Dr. James W. Uric has been appointed health officer of Kent County, vice Dr. W. Frank Hines.

Dr. J. L. Noble has been reappointed health officer of Caroline County.

Baltimore.

Dr. Wm. Osler has been called to Canada to see his brother, who is ill.

Dr. Lewis W. Armstrong has been appointed first assistant in the insane hospital at Bayview.

Dr. St. Clair Spruill has resigned the post of superintendent of University Hospital.

Dr. N. G. Keirle, Jr., has been appointed resident physician to Bayview Hospital, etc., and Drs. C. Howard Lewis, Frederick Crawford and J. L. McKnight assistant physicians in the same institution.

Dr. William R. Stover was formally installed as resident physician in the Baltimore University Hospital, April 30. Dr. William D. Bacon was made assistant.

Dr. Joseph Clement Clarke has been elected professor of psychiatry in the Woman's Medical College of Baltimore, vice Dr. Edwin A. Brush, resigned. Dr. Clarke is a graduate of the University of Maryland and superintendent of Springfield Asylum for the Insane, Sykesville.

A complimentary dinner was tendered to Prof. Wm. H. Welch, of the Johns Hopkins Medical School, May 4, by those who have carried on investigations in his laboratory in past years. On this occasion the "Festschrift," containing the work of his pupils and associates, was presented to him as a testimonial of affection and esteem and to mark the twenty-fifth anniversary of his professional career.

The Thomas Wilson Sanitarium for sick children was opened May 1. The hospital is eight miles from the city, on a hill six hundred feet above sea-level; there are three wards, each accommodating about thirty. The mothers of the children are allowed to come, their transportation being paid for them.

The scope of work in Johns Hopkins Hospital and Medical School has again been broadened. The hospital will offer special courses of instruction for graduates during May and June. This is intended to meet the requirements of practitioners of medicine and is almost wholly of a practical character.

OHIO.

Several cases of malignant diphtheria having been found in Mansfield, the health officer caused an investigation to be made. A sick cat, with which the children had been playing, was found to have diphtheria germs in its throat.

APPROPRIATIONS.

The seventy-fourth general assembly of the State of Ohio, just adjourned, appropriated $480,400 for the Ohio Hospital for Epileptics at Gallipolis, for the fiscal years 1900 and 1901. For construction the sum of $125,000 is available, and the items are a general hospital ($35,000), administration building ($50,-

000), and two new cottages for patients ($40,000). The purchase of more land, including a considerable addition to the colony farm, is also authorized. Funds are provided for the continuation of the work in the pathologic laboratory, and a special appropriation has been made expressly to enable this laboratory to participate in the pathologic exhibit of the AMERICAN MEDICAL ASSOCIATION.

THE OHIO LAW.

The new medical practice act enacted April 14, 1900, by the Ohio Legislature is of more than local interest, and now that a copy of the measure has come to hand a satisfactory review of its provisions can be made. The number and character of the Board of Medical Registration and Examination was not changed, and the Board will consist, as formerly, of seven members, of whom three are "regulars." The new portions of the law will take effect on July 1, with the exception that students who were matriculated in Ohio medical colleges on Jan. 1, 1900, and who shall graduate from their respective schools and present their diplomas to the Board prior to July 1, 1904, shall be entitled to have their diplomas simply registered as provided by the existing statute. This concession to the students was necessary in order to silence their opposition to the bill as a whole, and it is not in any way unjust, for present students matriculated at Ohio colleges with the implied understanding that their diplomas when received would entitle them to a State license.

With this exception, all applicants to practice medicine in Ohio must pass a satisfactory examination before the State Board in the future in all branches of medicine; and more important still, shall present, as a necessary preliminary to their admission to the examination, certain specified evidences of previous education. In this respect the Ohio law is now second to none; for in addition to having a medical diploma granted after four years of study in a medical college which is recognized by the Board as in good standing, the applicant must show either that he has obtained the degree of A. B., B.S., or its equivalent from a reputable college; or a diploma from a normal school, high school or seminary, issued after four years of study; or a teacher's permanent or life certificate; or a student's certificate of examination for admission to the freshman class of a reputable college; or a certificate of his having passed an examination conducted by the Board itself.

From this it will be seen that the State of Ohio is no longer behind in the matter of medical legislation, but possesses a statute second to none in its standard of educational qualification.

The Board has always had some difficulty in adjudicating questions that arose from the presentation of diplomas which under terms of the former law in regard to various forms of foreign certificates, entitled the holder at home to practice a certain branch of his profession. This has been fully met in the new statute by a plain statement that the certificate must have conferred the *full* right to practice all branches of medicine or surgery in some foreign country. Another important provision is the one permitting the Board to arrange for reciprocity in registering certificates which have been acquired from state boards after examination when the other states have laws demanding an equal grade of qualifications. This is one of the first direct legal enactments toward arranging for reciprocity in registration, something in which so many medical societies are now interested.

While under the existing law midwives were required simply to produce evidence of some experience in order to secure a license, the new statute compels them to appear before the Board and take such examination as it shall require. Because many loopholes had been found by lawyers, in the section of the former law that defined the practice of medicine, a new one has now been enacted which will prove much more difficult of evasion, and even the Supreme Court of Ohio, which not long since held that osteopathy was not " an agency for the treatment, cure or relief of any bodily injury, infirmity or disease," will probably not be able to nullify this revised section. It will not be so difficult in the future to secure proof of the illegal practice of medicine. This section being of some general interest, it is given in full, as follows:

Any person shall be regarded as practicing medicine or surgery within the meaning of this act, who shall use the words or letters "Dr.," "Doctor," "Professor," "M.D.," "M.B.," or any other title in connection with his name which in any way represents him as engaged in the practice of medicine or surgery or midwifery, in any of its branches, or who shall prescribe or who shall recommend for a fee for like use any drug or medicine, appliance, application, operation or treatment of whatever nature, for the cure or relief of any wound, fracture or bodily injury, infirmity or disease. The use of any of the above-mentioned words or letters or titles in such connection and under such circumstances as to induce the belief that the person who uses them is engaged in the practice of medicine or surgery or midwifery or any of its branches, shall be deemed and accepted as prima facie proof of an intent on the part of such person to represent himself as engaged in the practice of medicine or surgery or midwifery.

The osteopaths having developed strength, largely through the influence of Senator J. B. Foraker, some recognition of them became necessary to the enactment of the law. Even then they almost succeeded in getting a law of their own passed, that would have nullified all restrictions governing the practice of medicine, and this measure was openly lobbied for by two judges of the Supreme Court of Ohio. The law, as passed, provides that an osteopath must have a diploma from a legal school of osteopathy which requires four years of study of at least five months, each taken in four separate years; and that he must pass a satisfactory examination before the state board, in anatomy, physiology, chemistry and physical diagnosis. It is also provided that osteopaths "shall not be granted the privilege of administering drugs, or of performing major or operative surgery."

The passage of this amended law is the full fruition of the dreams for many years of the leading members of the Ohio profession, and it required the most assiduous and most self-sacrificing labor on the part of the legislative committee of the State Medical Society assisted by committees of some of the local societies. The result, however, clearly demonstrates that when the medical profession shows itself to be determined in its requests to the politicians it can overcome all opposition. Because the new Ohio statute is to be administered by but one board for all the so-called schools of medicine, in addition to the commendable points above enumerated, it possesses features of superiority over any medical law in America, and it will no doubt for many years be a model after which other states will pattern. The politicians can not attempt to disturb it for two years at least.

Cincinnati.

AT THE commencement exercises of the Cincinnati College of Medicine and Surgery, May 2, diplomas were granted to thirteen young men and women.

TWENTY-SEVEN young men were graduated, May 1, from the Miami Medical College. The alumni banquet was attended by two hundred members.

A CITIZENS' committee visited the city council recently and secured the repeal of the compulsory vaccination ordinance.

ILLINOIS.

THE LADIES of the hospital board at Galesburg gave a benefit bazaar and concert May 1 and cleared $500.

Chicago.

DR. ARTHUR R. EDWARDS has returned from an extended European trip.

DR. JAMES B. HERRICK announces that he will hereafter limit himself to office and consultation practice.

LAST WEEK the donations to the fund for the hospital for consumptives were $1186, bringing the total up to $18,333. The committee awaits only the settlement of the labor trouble to begin building.

EXAMINATION of candidates for license to practice medicine was held May 3. There were 105 applicants.

KANSAS.

SIX ACRES of ground have been transferred to the Bethany Hospital Association at Kansas City for the consideration of $12,500, and on this site will be built a new $100,000 hospital.

Rev. J. H. James, of Oakley, Kan., has given $60,000 of this, and work will be commenced soon.

DISTRICT OF COLUMBIA.

BILL FOR INCREASE OF MEDICAL DEPARTMENT OF ARMY.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Sec. 1.—That there shall be added to the number of medical officers of the army now authorized by law, four assistant surgeons-general with the rank of colonel, thirty surgeons with the rank of lieutenant-colonel, thirty surgeons with the rank of major, and eighty assistant-surgeons with the rank of first lieutenant who shall have the rank of captain at the expiration of five years' service as now provided by law. Provided that the original vacancies created by this act in the grade of colonel, lieutenant-colonel and major shall be filled by seniority promotion in accordance with established laws and regulations.

Sec. 2.—Hereafter candidates for appointment in the medical corps of the army who pass a medical examining board in compliance with existing regulations, shall be appointed acting assistant-surgeons for a probationary period of six months; during this probationary period they shall attend the army medical school established at the army medical museum in the city of Washington, and the faculty of the army medical school shall report to the Secretary of War at the end of the prescribed course of instruction upon the fitness and relative standing of the probationary candidates; those who are recommended by the faculty may then be commissioned by the President to fill existing vacancies in the medical corps of the army.

Sec. 3.—Acting assistant-surgeons appointed in accordance with the provisions of Section 2 shall be paid $100.00 per month and shall not be entitled to any allowance or to mileage in reporting for the prescribed course of instruction, or in returning to their homes if they are not recommended for a commission.

Sec. 4.—The number of acting assistant-surgeons appointed in accordance with the provision of Section 2 shall not exceed the number of vacancies existing or to result from retirements during the probationary period.

Sec. 5.—Candidates who have rendered satisfactory service as acting assistant-surgeons or as commissioned medical officers in the volunteer army of the United States for a period of six months or more, shall be exempted from this period of probation and may be commissioned at once if vacancies exist and they pass a satisfactory examination as to their physical, moral and professional qualifications.

DELAWARE.

The governor has appointed the following trustees of the State Insane Asylum: Drs. J. J. Black of Newcastle, J. H. Wilson of Dover, and H. W. Baker of Seaford.

The following members of the Wilmington Board of Health have recently been elected: president, George B. Ward; treasurer, James H. Morgan; secretary, Andrew A. Cahill; executive officers, Harry Graham, Thomas Garvey, George Spath and Thomas Welsh.

LOUISIANA.

The sixth annual session of the Charity Hospital Alumni Association was held in New Orleans the 18th ult.

A large class was graduated from the medical department of Tulane University, May 2. The total number of students this year was 426, the largest in the history of the college.

NEBRASKA.

At the commencement exercises of Creighton Medical College, held in Omaha, April 27, a class of twenty-two received diplomas. Prof. J. L. Greene, of Lincoln, who is a member of the faculty, delivered the doctorate address, and Rev. M. P. Dowling, president of Creighton University, conferred the degrees and presented the prizes.

IOWA.

At Cedar Rapids, the Sisters of Mercy cleared over $1300 through a bazaar given to raise money for furnishing and equipping a hospital.

The new St. Joseph's Hospital buildings were dedicated in Sioux City, May 6. The institution was founded about ten years ago, but the improvements and enlargements made recently have cost $150,000.

MISSOURI.

The sum of $3000 has been subscribed for the erection of a chemical laboratory at Westminster College, at Fulton. The building when completed will cost $5000.

The commencement exercises of the Marion-Sims College of Medicine in St. Louis occurred April 27, and fifteen received diplomas from the medical department. Rev. J. W. Day addressed the graduates and Dr. Y. H. Bond conferred the degrees.

WASHINGTON.

A new ward will be added to the Medical Lake Hospital for Insane; $4000 has been appropriated for the purpose and the plans are now being drawn.

Spokane is to have a new Protestant Hospital. John A. Finch has donated a site and about $15,000 has already been pledged. The cost will be about $50,000. It will be incorporated as St. Luke's Hospital, under the auspices of the Protestant Episcopal Church.

CANADA.

Dr. G. A. B. Addy, St. John, N.B., has gone to England to study pathology under Dr. Sims Woodhead.

Dr. J. W. Daniel has just been elected mayor of St. John by over 600 majority.

The medical health officer of Toronto, accompanied by the city engineer, will go to Europe soon for information regarding the construction of sewers.

Eighteen medical students from McGill University are making their way to the Paris Exposition by taking care of cattle on the *Lake Huron.*

The McKay bill, previously discussed in these columns, has been withdrawn from the local legislature.

Dr. P. A. McLennan, Nelson, B. C., has been appointed public vaccinator for the Kootenay districts, with power to perform vaccination on all school children.

The smallpox outbreak in Winnipeg has extended to twelve cases. Four nurses of the General Hospital are down with the disease and another death has occurred.

At the coming meeting of the Ontario Medical Association, June 6 and 7, Dr. Lewellys Barker, of Chicago, will deliver the address in medicine, and Dr. Luke Teskey, the address in surgery.

The Provincial Board of Health of Manitoba has issued a circular letter to the press dealing with the benefits of vaccination. The city officer of Montreal has also had published a decision of a U. S. judge on the same question.

Dr. Farrell, Halifax, has issued a warning to the citizens of that city who are moving at this time of the year, to the effect that tenants should see that all apartment houses and other residences have been thoroughly disinfected and especially should this precaution be taken where consumptives have been the previous occupants.

MEDICAL ALLIANCE OF AMERICA.

The *Canada Gazette* contains the notice of the incorporation of this institution. It emanates from Montreal and is composed of citizens of that city. Full particulars appeared in The Journal early last fall, but this may be given as additional information. The company is a limited one with a capital of $100,000, in $10 shares. Among other powers bestowed, the following is granted: "To negotiate and arrange agreements and contracts between physicians, surgeons, pharmacists, nurses and the like, whose profession or calling is to care for and attend the sick, injured or infirm on the one hand, and such persons as desire these services on the other hand, whereby the latter shall be attended, treated and cared for by the former in return for a fixed fee or subscription, payable weekly or otherwise, to be collected and paid by said proposed corporation."

TRAUMATIC ORIGIN OF CANCERS—A MEDICOLEGAL CASE.

A case which has caused much talk among the profession in Toronto has just been concluded here in the courts of law. About the middle of last December, a traveler was walking to his home and carrying two heavy valises. He slipped, and in the attempt to recover himself, it is alleged that one of the valises was thrown against the region of his liver with some violence. About the beginning of January the man went on a business trip to the maritime provinces, not having suffered much from the accident, but still not being in good health. He returned early in February, when his physician counseled an exploratory incision. This was performed, and it was found that he was suffering from a severe cancer of the liver. The incision was immediately closed, and two days later the man died. Dr. H. B. Anderson performed a post-mortem and found that the liver was greatly involved with cancer, and that there was also a nodule in the head of the pancreas. Nothing was found in any other part of the body. The traveler carried an insurance (accident) policy for $5000, and the company refusing to entertain the claim; suit was brought for the recovery thereof, and a goodly number of the city physicians were summoned to give expert evidence, *pro* and *con*. It turned out that that part of the liver adjacent to the supposed injury was entirely free from the disease, and also that a doctor out of town had examined the man two or three months before the alleged injury and had diagnosed cancer of the liver. The action was dismissed.

ASSOCIATION OF TRAINED NURSES.

A bill was recently introduced into the Dominion Parliament by Dr. Roddick, on behalf of nurses of Montreal, who sought to obtain legislation toward the formation of a Canadian nurses' association. Opposition developed which was ultimately successful in forcing the withdrawal of the measure. The powers sought by this "association" were both extensive and unlimited so far as the Dominion was concerned, and the latter was the chief, though not the only, objection to the bill. J. Ross Robertson, M. P., chairman of the Board of Trustees of the Victoria Hospital for Sick Children, Toronto, took an active part in opposing the measure, and it was through his energy and representations to Dr. Roddick that the latter concluded to withdraw the bill. The introduction of the measure has, however, accomplished good, for it has laid the foundation for the formation of a trained nurses' association for the entire Dominion. The membership of this will include the woman superintendents of all the hospitals of Canada, together with the alumnæ of each training school. The hospital authorities of the following cities have already given their support to the scheme: Vancouver, Winnipeg, London, Hamilton, Toronto, Kingston, Montreal, Ottawa, St. John and Halifax. It is understood that in the formation of this society Dr. Roddick will give hearty co-operation.

SAMARITAN HOSPITAL, MONTREAL.

The annual meeting of the above institution for women was held last week and the results show that the hospital is in a very satisfactory condition. The surgeon-in-chief, Dr. A. Lapthorn Smith, read his report for the year. During the 5½ years since the hospital was founded, there has been each year a very substantial growth, while the past one has been the most active in the whole history of the institution: 124 patients have been under treatment, as compared with 101 last year, an increase of 23 per cent.; 41 of this number suffered from tumors or other forms of abdominal disease, requiring abdominal section for their cure. Of these 41 women, none died in the hospital, but 2 with hopeless cases of cancer died two weeks after return to their homes. There were 95 other gynecologic operations for inflammations, lacerations, cancer, etc., and 24 received only medical treatment. Three deaths occurred in the hospital during the year, but not one from the 41 major operations. In addition, in the out-door department, 150 patients were treated, 23 of these were admitted to the wards. Thus 274 patients have been cared for during the year, and 1310 since the hospital began its work. The receipts for the year amounted to $3086 and the disbursements $2696. It is altogether likely that a new building will shortly be erected. Dr. A. Lapthorn Smith was re-elected surgeon-in-chief, and Sir Wm. Hingston consulting surgeon. Sir James Grant and Dr. F. W. Campbell were elected consulting physicians.

RECENT MEDICAL LEGISLATION IN NOVA SCOTIA.

Three acts of importance to the medical profession in the province of Nova Scotia passed the legislature at its recent sitting: An act to amend the public health act; one to establish a provincial sanatorium for the treatment and care of persons suffering from tubercular disease of the lungs, and a third, introduced by Dr. Kendall, which aimed to remedy the abuses associated with medical attendance on employees of collieries and manufacturing companies. The act regarding the public health of the province provides for the appointment of county medical health officers, who shall be duly qualified practitioners. As noted in The Journal last fall, Nova Scotia was far behind the times in this respect. These appointments are to be for one year, the appointee to be paid a salary of not less than $100. The act also sets forth at considerable length the duties required of these officers. Nova Scotia is the first province in the Dominion to set apart an allowance for the erection of a state sanatorium for consumptives; and the $15,000 provided for this purpose speaks well, when it is remembered that the Ontario legislators voted, at their recent session, only $4000, to enable municipalities to carry on this work. Clause (*h*) of the act is: "To pay to any municipal or civic body, corporation, private person or benevolent organization maintaining and conducting a sanatorium within the province for the treatment and care of persons suffering from tubercular disease of the lungs, a sum not to exceed 30 cents per day for not more than 100 days that each patient may be in actual attendance and under treatment at such sanatorium."

Correspondence.

Medicine in the Far East.

Vienna, Austria, April 13, 1900.

LUCKNOW.

To the Editor: I found rather "short picking" as far as medicine is concerned, in Lucknow. There is a special hospital there for lying-in and gynecologic cases, but as everywhere in India women have a deep-rooted prejudice against allowing men to examine or treat them; they are very generally cared for by an inexperienced female.

By a visit to King's Hospital, I made the acquaintance of Dr. Raham Khan Bahadur, a native physician of wide reputation, and especially noted as an operator for cataract. The Doctor has done over 7000 operations of this kind, after a manner that he claims is practiced only by himself. He uses pure cocain in powder, to render the eye insensible. He makes the usual incision before his extraction, but uses no eye speculum, and does not fix the eye with forceps while operating. After the incision is made, he uses a small ring-shaped instrument to press out the lens, but makes his pressure on the outside of the eyelid. The room that he operated in opened out on a dirty street; the air was full of dust, and he failed to wash his hands before beginning to operate, though he took the precaution to dip his instruments into hot water before using them. In spite of all this his results seemed to be excellent. The Doctor, like the other physicians whom I met in India, has a general practice. I saw a few patients with typhoid fever in his wards, all white men; in fact, every white man he had in his service had this disease, while among the natives, who out-numbered the whites twenty to one, there was not a case. In the management of enteric fever the Doctor has a hobby, i. e., the restriction of the diet of his patients. He claims that overfeeding is responsible for a large amount of the mortality in this complaint. He gives his patients only sterilized milk, and limits the quantity of this to from 1½ to 2 pints in the twenty-four hours. As to medication, he is entirely indifferent, but washes out the entire lower bowel by free injections of tepid water once in twenty-four hours.

AGRA.

I visited the Civil Hospital of this place, under the charge of Dr. Anderson, in whom I found one of the best all-around men.

He is a living refutation of the idea that for thorough efficiency in the practice of medicine it is necessary to divide it into an infinite number of specialties. I saw him do, in one forenoon, a half dozen cataract operations, with marked skill, and he crushed a stone in the bladder with a dexterity that I have seldom seen excelled. He also operated for hemorrhoids and amputated a forearm in a manner that would do credit to any general surgeon. Besides all this, I visited, with him, his wards that contained nonsurgical cases, and he examined and prescribed for these in a manner that showed him to be well up in internal medicine. The patients in this hospital were all natives, and bowel troubles and malarial complaints were the most widely prevalent diseases among them.

I saw swarms of rats running over the patients' beds and chasing each other about the floor. On asking the Doctor why he did not exterminate these pests, he told me that if he should kill or poison a single one every patient who could walk would abandon the ward at once. "These people," he said, "would divide their last grain of rice with a rat," and these little beasts were as tame as cats.

I visited also the prison hospital, where 2000 prisoners are confined, and the attending physician told me that during a service of ten years he had never had a case of typhoid fever under his care. Such is the willingness of the British authorities to pander to the religious prejudices of its Indian subjects, that three cooks are employed in this institution to prepare the food for the different sects into which the inmates are divided.

DELHI.

In this remote city of the Far East, I was surprised to find the table in the reading-room of my hotel covered with numbers of Dowie's *Leaves of Healing.* I looked these over with considerable interest, for the success of this man illustrates a phase of humanity that I have always studied with interest. This periodical, and the doctrines that it teaches, show into what absurdities mankind will drift in search of a religion to save their souls, or some therapeutic agent to heal their bodies. It most thoroughly illustrates "What fools we mortals be." Platform orators and writers for the press are wont to paint, in glowing terms, the intellectual progress that the race has made during the century just closed. Let, however, any cultivated man or woman, with a well-balanced mind, read this sheet of Dowie, study the absurd pretensions of the man, and consider the success that he has achieved in that great center of modern progress, Chicago, and I think he or she will lay it down with a mind full of pessimistic reflections, and a firm conviction that our race has a long journey yet before it ere it will have shaken off the shackles of ignorant fanaticism and freed itself from the power of designing mountebanks. In a single article in this periodical the term stinkpot is used a score of times. Yet this man who revels in such slang is looked upon by his followers as so near approaching the Divine that a god who is deaf to the entreaties of the noblest of our race hears him and does his bidding. In conversation with a prominent western lawyer, in regard to Dowie and his work, he said: "I had always been inclined to be a little agnostic, but had never settled down into an attitude of absolute unbelief. Being in Chicago over Sunday I went to hear Dowie, and after listening to him for an hour and a half, I left the hall where he spoke fuller of doubts than I had ever been before in my life, and I have ever since been a firmer believer in agnosticism than I had ever been before." Ingersoll is dead, Dowie is the best man living for the propagation of his tenets, and the confirmation of thinking men in their doubts as to the Divine authenticity of the Bible.

JEYPORE.

I visited the Mayo Hospital, in this city, an institution containing 209 beds, under the charge of Dr. Pank, an up-to-date Englishman. Like Dr. Anderson of Agra, I found him doing all kinds of work, and that, too, in a most satisfactory manner. Jeypore is the capital of the native state of Rajputana, and the ruling Maharaja is a liberal-minded ruler, and furnishes Dr. Pank with unlimited funds to keep up this hospital.

The patients in the wards devoted to internal medicine were largely those in whom malaria and its complications played the most important role. I saw a large number with spleens that filled the entire abdominal cavity. Dr. P. told me that this disease kills more people in India than all others combined, the plague and cholera not excepted. He treats these cases by the administration of large doses of the iodid of arsenic, together with 3 grains of quinin three times a day. I traveled 2000 miles over the dry plains of India, where for nearly two years not a drop of rain had fallen, and where men and beasts were dying by the thousands on account of this drouth, yet if this dry crust of earth on top be disturbed and the underlying soil exposed there emanates from it a malarial poison, the influence of which the oldest resident can not withstand. Dr. Pank confirmed the opinion I have so often heard expressed by physicians in India, that the natives never have typhoid fever. Pneumonia is very prevalent in Jeypore during the winter months, and the natives, who are nearly all illy nourished, fall ready victims to its ravages; 60 per cent. of those attacked die.

It seems that at Colombo, Madras, Calcutta and Bombay, each of which is located near the sea-level, and where the temperature is nearly uniform during the entire year, pneumonia scarcely ever prevails and articular rheumatism is a rarity. However, at Jeypore, where the altitude is considerable and where the nights are cool, the former disease is very prevalent. Its treatment is entirely of a supportive character, consisting of the administration of the tincture of bark and the carbonate of ammonia. I saw the Doctor treat several cases of lupus, by first curetting the diseased surface and then sprinkling antipyrin over it in the form of a powder, and applying over this an adhesive strap to keep it in place. He claims that in his hands this treatment has been eminently satisfactory.

At my first visit to the Mayo Hospital Dr. Pank began his forenoon's surgical work by operating on four patients for cataract, and two for stone in the bladder. In operating for stone the Doctor crushes everything. If the stone be too large to be caught in the jaws of the lithotrite, or too hard to be crushed by that instrument, he makes a perineal incision, not for the purpose of removing the stone in its entirety, but to introduce a powerful crusher, and after the stone is crushed, the fragments are washed out, both by the perineal opening and by the urethra.

The earth-closet system of the disposition of the excreta of the patients in the hospitals in the interior of India is the one generally adopted, and as the dry earth is abundant, and is changed often, the system seems to work well. Jeypore was the first great famine center that I struck in my tour through India. In the Mayo Hospital grounds long rows of temporary rice-straw sheds were erected, where nearly a thousand women and children were being housed and fed, their husbands and fathers working on public works in the vicinity. Many of these, especially the children, presented a most sorrowful aspect. Starvation among them carried with it a train of morbid phenomena to which many of these poor creatures succumb, even after they have an abundant supply of food. A catarrh of the whole alimentary tract affected a good many of the children, and in their emaciated condition nothing seemed to arrest it. Two score years devoted to the practice of medicine ought to school a man to the sight of human misery and suffering, yet in famine-stricken Jeypore I witnessed scenes against which my blunted sensibilities turned away with horror and disgust. For instance, a woman with a child just born, naked and unwashed, paraded herself before me, exhibited her withered, skinny breast, telling me that as she had no food to eat, she could not give milk to nourish her child. Then came a nearly nude skeleton of a man carrying in his arms a dead child, and he recounted with tears in his eyes that the infant he carried was the last of his family to die of starvation, and he would soon follow them to the grave unless I gave him money to buy food.

M. S. Caldwell, M.D.

The Mad-Stone.

Philadelphia, April 11, 1900.

To the Editor:—A question in regard to the so-called "madstone," in The Journal of April 7, 1900, prompts me to reproduce from my notes on hydrophobia some facts in regard to this subject, as it is one about which much uncertainty prevails.

One of the earliest descriptions of such a thing is that attributed to Abbé Grosier, in his "Description of the Chinese." He there gives an account of the use of a stone called the serpent-stone in "Tang-King." This was applied, stuck fast, absorbed the poison, dropped off, and the patient was freed. The stone was washed in lime-water, dried and could then be used again.

In a work on hydrophobia, published in 1812, Dr. Thacher says: "There prevails a fanciful opinion among a certain class of people, that a celebrated substance, known by the name of snake-stone, possesses, intrinsically, the power of extracting the poison of a snake or mad dog from the human body; that when applied, the stone will adhere like a leech to the bitten part, nor loose its hold till its numerous pores are literally glutted with the liquid poison. A case intended to corroborate this doctrine is recorded by Mr. William H. Harding in the *Medical Repository*, Vol. 4, hex. 2. He relates that his child received a bite from a dog supposed to be affected with rabies. The snake-stone was applied (in due form and full faith no doubt) by which every particle of poison was extracted, and no ill consequences resulted from the accident. Dr. Mease has, in the Medical Museum (Vol. 5, p. 1) with his usual freedom and good sense, animadverted upon the unreasonable prejudice in favor of this popular but fallacious expedient. He informs us that in India such stones are very common, and the credulous natives believe, most firmly, in their preservative powers against the effects of the bites of venomous snakes. The author of the 'Wonders of Nature and Art,' says Dr. Mease, thus notices these stones in the account of Tonquin. 'Persons who happen to be bitten by serpents, press out the blood, and apply a small stone, called the serpent-stone, which is said to possess the miraculous power of drawing out the poison. When impregnated with the venom it drops off like a leech. It is then carefully washed with milk and water in which lime has been diluted, and on a second application to the wound, it exhales all the virus so completely, that in less than an hour, the patient becomes perfectly free from pain.' 'Two of these stones,' adds Dr. M. 'are in the cabinet of the Philosophical Society, and another one is in my possession, all of which were brought last year by a gentleman from India. They are rather more than an inch long, and about five-sixteenths of an inch broad, of a bluish or slaty color and flattish shape.'" [Pp. 204-206.]

In 1801 Dr. Samuel Davis, of Petersburg, Va., wrote a letter to Dr. Benjamin Rush, which has never been published, but which is preserved in the Ridgway Branch of the Philadelphia Library. In this letter he describes a mad-stone which emitted bubbles when put in water after the application, and this was taken to be evidence that it had extracted the poison from the bite. The owner of this stone refused an offer of 300 guineas for it, a very large sum of money at that time. It was yellow, light and had many black pores. It had been given to the owner by a stranger who had been sick and cared for. It was wrapped in a printed paper, which declared "Francis Torres, a Native of France, is in possession of a chymical preparation, called a Chinese snake-stone, which will extract the poison of the bite of snakes, spiders, and of a mad dog and will cure cancers, which are sold at half a Guinea for the small and a Guinea for the large ones." This was dated Charlestown, S. C., 1740.

Mad-stones seem to be of two sorts: 1, some porous form of calcareous rock, or, 2, a concretion found in the intestinal canal of herbivorous animals, in this being like the Bezoar stone which figured so largely in the pharmacopeias of one hundred and fifty or two hundred years ago; in fact, it seems as though the mad-stone was indeed in many cases the Bezoar stone, which, when it ceased to be used in internal medication, came to be applied externally. There have been a number of so-called mad-stones in different parts of this country, most of them in the South and Southwest. In one case, in Virginia, the owner of a mad-stone in 1885 believed that it was the "talisman" sent by the Sultan as a wedding present on the occasion of the marriage of the Earl of Huntington to Edith Plantagenet.

Serious writers usually treat the mad-stone as having no specific virtue, but serving as a means to calm the apprehensions of those who have been bitten by rabid animals. I quite agree in this opinion, but am assured from my long-continued investigations of the subject of hydrophobia that in this respect it is not really inferior to some other modes of preventive treatment which have obtained the approval and support of men whose distinction in medicine is far greater than their industry in critically investigating the real worth of prophylactic measures which present themselves, with a pretentious air of scientific accuracy.
CHARLES W. DULLES, M.D.

4101 Walnut Street.

Division of Fees.

CHICAGO, April 29, 1900.

To the Editor:—For some time the surgeon and specialist have been giving their opinions as to the demands for fees and their division between the general practitioner and the operator. The view taken by the majority of specialists, that division of fees is dishonest and does the patient an injustice looks well in print and reads as though it were necessary for the specialist to guide the physician and correct his dishonest, grasping hand.

This controversy has been one-sided. And to show where the corruption is to be found I will state my own personal experience with the specialist. Within the last three years I have been approached by no less than three of the prominent and leading surgeons of Chicago who, openly and of their own free will, made these propositions to me: One said he would be pleased to do all my surgical work and give me 50 per cent. of his fees from all patients I sent him. Another said he would do the square thing and give me 33 per cent. The third, and not the least, so far as his reputation as an operator and writer, offered me 50 per cent. of all fees. These same specialists have given their opinion freely at medical meetings, denounced the general practitioner and placed him alongside the crook. If all surgeons and specialists who have been so free to denounce the practice are playing the double game it is time to correct the would-be honest surgeon and place him where he should be. For my part I think he has played the part of the wolf long enough. I feel sure that I am not the only physician doing general work who has had such propositions.

LEWIS S. EASTLAKE, M.D.

Castor-Oil in Neuralgia.

NEW YORK CITY, April 26, 1900.

To the Editor:—In the discussion on castor-oil in the treatment of neuralgia, I note (see THE JOURNAL of April 21, p. 982) that Dr. Paddock is troubled to know how the oil can be given, while Dr. Fütterer tells of giving it with alcoholics that may in some degree interfere with its usefulness; and Dr. Hirst is quoted as advising that it be given in *warm* milk, while the question is raised as to how warm milk disguises the taste of the oil.

Some fifteen years ago I not only gave to the profession the fact that *cold* milk is the best of all vehicles in which to administer both castor-oil and cod-liver oil, but also pointed out the method of administration with the reasons for the method used.

Milk, like these two oils, is an oil or, more properly speaking, an emulsion—and just here let me say that it is Nature's emulsion and, in a very short time, when allowed to stand, it separates, hence the uselessness of all emulsions made by men, for all separate and are a snare and a delusion. Few if any of the emulsions contain the amount of oil that is claimed for them, hence the stomach tolerates the *supposed* amount of oil better than the amount given when we measure out the oil ourselves.

The method I gave is this: fill the mouth with milk and hold it there; dip up a tablespoonful of milk and pour into this spoon—already full of milk—about a teaspoonful of oil; whether cod-liver oil or castor-oil, you will see that it displaces milk to the extent of its bulk, as any other liquid would do, but the globules of either of these oils, being different from the gobules in milk, do not mix with the latter, and the oil will be in a round ball, not touching the spoon. As you swallow the milk that has been held in the mouth, take the spoonful of milk in the mouth and at once begin to drink milk from a cup at hand. I have never yet found the person who, if the procedure was carried through in this manner, could tell whether he had taken castor-oil or cod-liver oil, or taken none at all. There is absolutely no contact with the mouth or throat, of any particle of the oil, nor can it be smelled on the spoon. All this implies taking immediately, but not with undue haste.

The oils as well as the milk must be cold and the colder the better. The quantity can be increased by degrees as the stomach will stand the oil desired, but if a large dose of castor-oil is desired, it can be given better by repeating the procedure than by attempting to swallow too much at one time.

This procedure has given me and so many of my patients, especially parents when administering oils to children, so much comfort that I repeat what I wrote over fifteen years ago, hoping others who do not seem to have heard of it in detail may also find relief from the nauseous taste that so many dread.

Yours respectfully,
Wickes Washburn, M.D.

Association News.

The Official Program.—In order to avoid misunderstandings and to protect the interests of advertisers, attention is called to the fact that there is but one official program. This program is copyrighted by the Board of Trustees and contains no advertising matter.

Delegates to the Meeting of the American Medical Association.—Secretaries of societies are requested to forward the names of delegates as soon as possible after these are appointed or elected. George H. Simmons, M.D., Secretary, 61 Market St., Chicago.

General Business Committee.—The first meeting of the General Business Committee of the American Medical Association will be held at the Hotel Dennis, Atlantic City, N.J., on Monday afternoon, June 4, at 4:30 o'clock. Subsequent meetings of the Committee will be held at the same place and hour, every afternoon, during the meeting of the Association, unless otherwise directed by the Committee. In order that the business of the Association may be effectively transacted, it is very important that all the members of the Committee should attend all its meetings. L. Duncan Bulkley, Acting Secretary.

Entertainment of Members of the Association.—The Directors of the Philadelphia County Medical Society, aware of the large number of physicians who will pass through Philadelphia on their way to and from the meeting of the American Medical Association, to be held at Atlantic City, N. J., June 5 to 8, and desirous of affording them an opportunity to visit the various hospitals and scientific institutions of Philadelphia, and to witness operations, etc., will establish a bureau of information for the furtherance of these objects. This will be at the College of Physicians of Philadelphia, northeast corner of Thirteenth and Locust Streets, the College having kindly placed a room in its hall at the disposal of the Philadelphia County Medical Society. This room will be in charge of a competent physician, and open from 10 a.m. until 5 p.m., daily except Sunday, from Monday, June 2, to Monday, June 11. Physicians are invited to make free use of the bureau, where they may obtain full information relative to the situation of the various hospitals, medical colleges, and other scientific institutions of Philadelphia, and to the time of operations and clinics at the different hospitals throughout the city. Information will be secured and tabulated daily, showing the leading attractions for that day. The College of Physicians of Philadelphia has also voted to extend to the members of the American Medical Association the courtesies of the library and of the Mütter museum. The library, which was founded in 1788, is, with the single exception of that of the surgeon-general's office in Washington, D. C., the largest collection of medical books in this country. The Mütter museum, which was endowed in 1856, by the late Prof. Thomas D. Mütter, contains about 4000 specimens of normal and pathologic anatomy, besides valuable models, casts, and illustrated anatomic works. Both the library and the museum will also be open from 10 a.m. to 5 p.m., daily except Sunday. Additional information may be secured by addressing the Bureau of Information, at the address above, from June 2 to 11, and prior to that time by addressing any of the directors of the Philadelphia County Medical Society, as follows: Drs. A. O. J. Kelly, Chairman, No. 1911 Pine Street, Chas. A. Oliver, John G. Clark, Addinell Hewson, or Emma Musson.

Deaths and Obituaries.

S. G. Plummer, M.D., Rock Island, Ill., died April 29, aged 79 years. He was born in Pennsylvania, received his early education in the Greenville (Pa.) Academy, and the Western Reserve College in Ohio. In 1856 he was graduated from the Cleveland Medical College, and in 1861 was made surgeon of the Thirteenth Ill. Vol. Inf., later appointed medical director of the First Division, Fifteenth Army Corps, and made its surgeon. Since the Civil War, he had practiced medicine in Rock Island, where he served on the medical staff of St. Anthony's Hospital. *He was a member of the American Medical Association*, the Illinois State Medical Society, and the Iowa and Illinois Central Medical Association.

M. M. Bagg, M.D., died May 2, in Utica, N. Y., aged 89 years. He studied in Hamilton College; in 1833 went to Yale, where he was graduated four years later, and in 1842 received his degree in medicine from the Geneva Medical College. After a year spent in Paris, he returned to Utica, where he had since practiced. He was a trustee of Faxton Hospital and a member of its board of physicians, was also on the consulting staff of St. Luke's Hospital and one of the visiting physicians to the Utica Orphan Asylum.

Leander H. Baker, M.D., Louisville, (Ky.) Medical College, died May 4, of bronchitis, at his home in Oak Park, Ill. He practiced medicine in St. Louis, Mo., until the breaking out of the Civil War, when he was appointed surgeon of the Twenty-fourth Mo. Vol. Inf. In 1864 he located in Quincy, Ill., and from there went to Payson, Ill., thence to Oak Park.

John Stockton Hough, M.D., a retired physician, died at his home in Ewing, near Trenton, N. J., May 6, aged 54 years. He was graduated from the Pennsylvania University's medical department, and had traveled extensively in Europe in the interest of his profession. He was also one of the best known men in New Jersey, a bibliographer possessed of a large library, and of late years was active in the movements for good roads. His death resulted from injuries received by having been thrown from his carriage a week previously.

Richard H. Kealhofer, M.D., aged 50, died suddenly of heart disease, in Philadelphia, May 1. He was a resident of Hagerstown, Md., and had been on a trip to Atlantic City. Dr. Kealhofer was educated at Franklin and Marshall College, studied medicine with Dr. J. McPherson Scott, of Hagerstown, and received his degree at the University of Maryland in 1866. He practiced for a time in St. Louis, Mo.

Benjamin Geret, M.D., St. Charles, Mo., died May 3, aged 58 years. He was a native of Bavaria, and in 1868 was graduated from the Royal College of Medicine at Erlangen; later he was appointed a major-surgeon in the German army, and was decorated with high honors by both the king of Bavaria and the emperor of Germany.

G. R. C. Todd, M.D., a brother-in-law of Abraham Lincoln, and a surgeon in the Confederate Army during the Civil War, died at his home in Barnwell, S. C., April 25. He was graduated from the medical department of the Transylvania University, Lexington, Ky., in 1850.

Charles H. Mesereau, M.D., College of Physicians and Surgeons, New York City, 1884, died of cardiac disease at his home in New York City, May 4, aged 37 years. For two years he was a house-surgeon in the Hartford (Conn.) Hospital, and was for several years a sanitary inspector of the New York Health Board.

John P. Landon, M.D., died at his home in Telluride, Colo., recently. He was graduated from the Bellevue Hospital Medical College, New York City, in 1875, and practiced in Sterling, Ill., for a number of years before going West.

David Stovel, M.D., Detroit, Mich., died May 1, aged 61 years. He was born in Mount Forest, Ont., and graduated first from the Toronto College of Medicine, then from the Detroit College of Medicine.

Edward Lyon, M.D., a graduate of the medical department of the University of Pennsylvania, class of 1867, died recently at his home in Williamsport, Pa.

W. N. Rogers, M.D., of Waco, Texas, died May 1. He graduated from the Louisville Medical College in 1878, and practiced in Belton, Texas, until four years ago.

George Fulmer, M.D., Jefferson Medical College, 1853, died in Mechanicsburg, Pa., May 1. He was a member of the American Medical Association and of the Medical Society of the State of Pennsylvania.

Edward Payson Williams, M.D., Atlantic City, N. J., died there April 29, aged 69 years. He was graduated in 1875, from the College of Physicians and Surgeons, New York City.

Wm. E. H. Brown, M.D., of Algiers, La., died April 23, aged 70 years.

Miscellany.

Food Poisoning at San Juan, Porto Rico.—On March 25, 1900, out of a company of ninety-four men of the Eleventh United States Infantry, forming part of the garrison of San Juan, P. R., 57 were admitted to hospital and 10 became slightly sick, but did not apply for treatment. The symptoms were persistent vomiting, severe cramps in the stomach, purging, great prostration, dilatation of the pupils, headache, clammy perspiration, chilliness and great thirst. The stomach in each case was washed out by means of the stomach-tube. In some cases the stomach was empty and nothing but water and mucus came away; in others the washings were tinged with bile, and in others again a moderate amount of food that had been eaten for breakfast was washed out, but in no case was the stomach overdistended or even full. The vomiting was controlled in several instances by the washing out of the stomach, but in many it persisted for several hours afterward. The prostration was so great that some of the patients fainted before reaching the ward. A large number vomited blood in small clots, in most instances mixed with nothing but mucus, showing that the hemorrhage had not taken place until after the contents of the stomach had been expelled. Purging began in most before the vomiting had ceased, and continued for twelve to fifteen hours. At first the stools were natural, soon watery, afterward becoming mucous and blood-tinged. Cramps in the voluntary muscles were mild in some, but other patients writhed in agony, their sufferings being relieved only after thorough kneading and massage by the hospital attendants. Forty were discharged on the following morning; the others from day to day until the fifth morning, when all were returned to duty.

A careful study of the food eaten that morning led the surgeon in charge, Captain George M. Wells, assistant-sugeon, U. S. A., to refer this general attack to the milk used with the mush furnished for breakfast. This meal consisted of hash made from meat and potatoes, which had been baked in the oven for two hours prior to being served; mush made from the corn-meal of the subsistence department and served with diluted condensed milk of the Eagle brand; bread, coffee and sugar, but no cream. The evidence seemed to point to the condensed milk as the ingredient of the food containing the poison.

Sanitary Progress in Porto Rico.—General Orders, No. 69, April 2, 1900, Headquarters Department of Porto Rico, prescribes regulation for the establishment and care of cemeteries, public and private. So far as relates to public cemeteries, it is required that on or before June 30, 1900, each municipality shall provide within its limits at least one civil cemetery, which shall be available for the burial of all who die in the municipality. Graves or lots in such cemeteries may be sold for the interment of the remains of individuals or families, but a sufficient area must be set apart for the free and proper burial of the remains of the poor and friendless. All interments in, or disturbance of, the soil of any cemetery now in use, after the above-mentioned date, are prohibited, provided, however, that the alcalde of any municipality may submit evidence to show, as respects any cemetery in his municipal district, that there is a space in a designated one available for burials, and that interments may be made in such space without disturbing the remains of others previously buried therein. This proof will be forwarded to the military governor, and if, after investigation by the Superior Board of Health, the facts as claimed shall be established a special exception will be made in the case of the cemetery in question.

General Orders, No. 74, April 7, 1900, establishes a board of charities in each municipality, to consist of three members to be selected by the alcalde, with the approval of the municipal council, on account of their special fitness for organizing and supervising charitable work. All matters respecting municipal charitable institutions, including homes, asylums and hospitals wholly maintained from public funds and intended for the care of the destitute, sick or incurables, the nomination of destitute children for admission to the insular charity schools, and matters relating to the improvement of the state of the poor and distressed in general are submitted to this board.

Again, No. 78 of the series of General Orders, dated April 10, 1900, provides for the appointment in each municipality of a competent inspector of cattle and meat, to be appointed by the municipal council and paid from the municipal funds. When sick animals or those suffering from sores or wounds are offered for slaughter, for human consumption, the inspector will forbid the slaughter. Meat which has not been inspected, approved and duly tagged by the authorized inspector will not be sold for human food. The flesh of animals suffering from tuberculosis, fever, actinomycosis, glanders, cancer, hydrophobia, eruptive skin disease, measles and cholera (in hogs), and of those which have died natural deaths, is especially unfit for human food and must be condemned. No animal over six months pregnant shall be slaughtered for food, and the number of cows shall not exceed one-fourth of the total number of cattle butchered. The district courts have jurisdiction in cases of violation of the provisions of this order.

Lastly, Circular No. 16, dated April 9, from the same headquarters, publishes rules and regulations respecting burials, disinterments and transportation of human bodies.

The Prognosis of Appendicitis.—For a time discussion raged warmly around the question as to the indications for operation in cases of appendicitis, and while it can not be said that a final decision has been reached, there is a growing tendency to operate early and to operate often. There are not many who to-day consider appendicitis a medical disorder exclusively, but the condition is rather looked upon as a borderline affection in whose management the surgeon should be consulted from the outset, in order that, should his opinion be desired, he can give it intelligently, and should operation be required, he can perform it promptly. The general proposition that successful treatment demands early and accurate diagnosis is especially applicable here, but even under the most favorable circumstances it will be difficult, if at all possible, to determine the character of the disease, the nature of the infection, the intensity of the morbid process, and the quality and the extent of the lesions. The prognosis will depend on all of these factors and this aspect of the subject is given careful consideration in a recent communication by Caley (*The Lancet*, February 10, p. 378), based on observation of 200 cases of appendicitis. Of this number 98 were treated in the medical wards, with 3 deaths, and 102 in the surgical, with 22 deaths. The low mortality among the medical cases is attributed to the large proportion of simple ones and the high mortality among the surgical to the large proportion with general peritonitis.

The cases were divided into five groups: 1, simple appendicitis and perityphlitis, in which the inflammation was limited to the walls of the appendix or localized non-suppurative adhesive peritonitis developed; 2, appendicitis with localized suppuration; 3, appendicitis with diffuse peritonitis; 4, chronic and relapsing peritonitis; 5, appendicitis with special complications, such as intestinal obstruction, fecal fistula, suppurative pylephlebitis with portal or general pyemia, hepatic or subphrenic abscess, thrombosis of the iliac veins, pleurisy, pneumonia, parotitis and secondary hemorrhage.

From a pathologic point of view the prognosis will depend principally on the extent and the nature of the peritoneal infection—whether local or diffuse, suppurative or non-suppurative, of a mild or of a severe degree of virulence—and in less degree on the nature and the course of the lesion of the appendix—whether mild or severe, as measured by its infectivity. No certain data are available for determining the virulence of the infective micro-organisms, but the lesions may be considered as severe or mild accordingly as one or another of the following phenomena are present: Severe—1, perforation, whether from concretion, ulceration or gangrene; 2, gangrene, whether from interference with the blood-supply or from intense infectivity of the inflammation; 3, ulceration due to specific infections, e. g., tuberculosis, typhoid fever, dysentery or actinomycosis, the presence of concretions, or the result of intense inflammation; 4, concretion; and 5, suppuration within the appendix itself. Mild—1, simple inflammation—catarrhal or more correctly, "parietal" appendicitis—acute or chronic; 2, stenosis or obliteration of the lumen, which is frequently associated with; 3, cystic dilatation of the distal portion; 4, concretion without ulceration; 5, superficial ulceration, and 6, kinking, adhesion, volvulus or hypertrophy of the mucosa.

From the clinical point of view the prognosis depends on: 1, the local symptoms; 2, the general symptoms; 3, the local signs; and 4, the progress of the case. Of the local symptoms pain is one of the most constant, and its distribution, severity and character are of much significance. In mild cases it is localized to the right iliac fossa, whereas in perforative ones it is usually more sudden, more severe and more generalized. When associated with definite collapse it suggests perforation, rupture of adhesions or rapidly spreading peritoneal infection. It may at first be dull and aching or slight and colicky—from inflammation of the appendix—and followed by a sudden increase in severity, with vomiting and general disturbance—from inflammation of the surrounding peritoneum, or extension of peritonitis, or rupture of an encysted abscess. In mild cases the pain tends soon to become localized and less intense. If persistent and severe it generally indicates a severe lesion. If it is also radiating it indicates extension of peritonitis; if persistent, severe and local, it is indicative of a concretion: if increased by deep respiration, it indicates considerable local peritonitis; as does also pain or difficulty in micturition. It should not be forgotten, however, that a severe lesion may be attended with little pain.

Vomiting, if present, usually accompanies or follows the pain, although it sometimes precedes. If frequent and severe, and especially if persistent, it indicates a severe lesion, as it does also when it occurs after a period of comparative repose. If it is sterocoraceous or coffee-grounds in character, it is of serious import. Absence of vomiting, however, is inconclusive. Other things being equal, natural action of the bowels is a favorable sign. Hiccough, especially if persistent, is of unfavorable omen.

Among the general symptoms the temperature, pulse and respiration conjointly and the aspect and the general condition of the patient with especial reference to collapse or anything approaching it, restlessness or general distress, are reliable guides in determining the effect of the local lesion on the organism as a whole. The temperature may be subnormal in the initial collapse of acute perforative or gangrenous appendicitis, fully developed septic peritonitis, localized circumscribed suppuration, mild appendicitis without appreciable local peritonitis. High fever of a continued type in the first two or three days is generally indicative of a severely infective lesion. A decline in temperature with a reduction in pulse, frequency and improvement in the general condition is usually reassuring. A secondary rise of temperature after the first few days is indicative of spreading peritonitis, suppuration or intercurrent complication, while fever persisting after eight or ten days is generally indicative of local abscess. A high pulse-rate is suggestive of a severe lesion, and in particular diffuse peritoneal infection, especially if the pulse-frequency is disproportionate to the temperature. Frequent and shallow respiration of costal type, with low temperature and pulse-rate, suggests grave peritoneal implication.

A pinched and anxious expression, restlessness, obvious distress and collapse indicate peritoneal shock or general peritonitis. The initial collapse that marks the onset of perforative appendicitis is significant. More or less persistent collapse is of the worst possible omen.

The local signs include impaired mobility during respiration and distension, tenderness, muscular rigidity, tumor or deep-seated resistance. Local immobility is the rule in cases of appendicitis with localized peritonitis. General immobility, except of diaphragmatic origin, is indicative of diffuse peritonitis. The area of local tenderness is proportionate to the extent of the local inflammation. Muscular rigidity corresponds with cutaneous hyperesthesia and tenderness. Local tumor or deep-seated resistance and dulness on percussion are common but not invariable. Their absence may be of serious prognostic significance and their presence reassuring.

The progress of the case during twenty-four, thirty-six and forty-eight hours may furnish a needed indication in prognosis and treatment. In mild cases the symptoms recede or become localized, while in severe ones the symptoms persist or become intensified.

Recurrence may be expected in about one-third of all patients; usually within two years, and most commonly within one year of the first attack. In the presence of local suppuration the probability of recurrence is relatively slight. A mild first attack is frequently followed by recurrence. If the condition clears up slowly and local pain, tenderness or swelling persists for some time, the probability of a relapse sooner or later is great. If in the interval between attacks there is occasional pain or discomfort, with irregularity of the bowels and definite local tenderness or resistance, a chronic appendicitis probably exists, recognizable on palpation, with a chronic tendency to relapse so long as the appendicitis remains.

EXAMINATION QUESTIONS.

The Michigan State Board of Registration in Medicine, presented the following questions at a recent examination in the several subjects noted.

PUBLIC HEALTH LAWS AND HYGIENE.

1. Name the diseases dangerous to public health that must be reported to the Board of Health. 2. What restrictive measures sho [illegible] reak of smallpox? 3. Describe method of [illegible] following a case of scarlet fever. 4. Nui [illegible] a nuisance? How abated? 5. Milk: Dangers from impure milk? How adulterated? What is the legal standard in Michigan? 6. What preventive measures should be adopted in typhoid fever? 7. Number of cubic feet of air that should be provided in schools for each pupil. 8. Name some of the impurities in drinking water. 9. State Board of Health: Number of? How appointed? Their powers? 10. Local Boards of Health: Who are they under? The general law in townships? In cities and villages?

OBSTETRICS.

1. Name four of the most important signs or symptoms of pregnancy. 2. What are the disorders resulting from the mechanical interference of the gravid uterus. 3. Give causes and symptoms of puerperal eclampsia. 4. Define the terms abortion, miscarriage and premature labor. 5. Define accidental hemorrhage. 6. Placenta previa—diagnosis and prognosis. 7. Describe the stages of labor. 8. Describe the terms presentation and position. 9. What should an obstetric bag contain.

MINOR SURGERY.

1. Describe the process of applying a plaster of paris jacket. 2. Name ten important agents used as germicides. 3. Describe preparation for aseptic operation: *a*, Surgeon and assistants; *b*, patient; *c*, instruments. 4. Define anesthesia and name two local anesthetics. 5. Give principal differences in effects of chloroform and ether. 6. What is an aneurysm? 7. Give eight methods of controlling hemorrhage. 8. Describe: 1, compound fracture; 2, simple; 3, comminuted. 9. Describe Colles' fracture, and how would you dress it? 10. Describe Pott's fracture.

EYE AND EAR.

1. Briefly describe the anatomy of the eye. 2. What symptoms are diagnostic of conjunctivitis? 3. Describe keratitis, and state in a general way its treatment. 4. How would you diagnose cataract? 5. What do you understand by the terms hypermetropia, myopia, astigmatism. 6. What treatment do you recommend in cases of ophthalmia neonatorum—in what way can you prevent its occurrence? 7. What is the treatment for acute periostitis of the mastoid process? 8. In what way is air admitted to the middle ear? 9. Are growths and obstructions within the nose apt to cause deafness? If so, how? 10. How would you remove foreign bodies from the auditory canal?

CHEMISTRY.

1. What is chemistry? 2. What are the several divisions of the science? 3. What is a chemical element? Mention five. 4. What is a molecule, as recognized in chemical science? 5. What is an atom as defined in chemistry? What is a chemical symbol? Name the symbols of five primary elements. 7. Write down the symbols of the following seven elements: oxygen, hydrogen, iron, copper, sulphur, carbon, calcium. 8. How do you designate the atomic proportion of a compound? 9. What name is applied to designate a compound having an alkaline base with an acid adjunct? Give three examples. 10. What division of chemical combinations—organic and inorganic—is the more complex? Write the names of three formulas of great complexity.

BACTERIOLOGY.

1. Define microbes, coccus, bacillus. 2. Define streptococcus, staphylococcus, sarcina. 3. Give method of sterilization by heat; by chemicals. 4. Define sterilization, disinfection, deodorization. 5. Give method of staining bacilli tuberculosis in sputum. Give method of staining gonococci. 7. Name three culture-media. 8. How would you diagnose diphtheria bacteriologically—name and describe germ. 9. What microbes are the ordinary pus producers? 10. Give principal sources of typhoid bacillus—in what media is it oftenest found?

HISTOLOGY.

1. Define histology. 2. Give histology of bone. 3. Describe structure of liver and give blood supply. 4. Give list of principal *tissues which compose the body; subdivisions of same. 5. Briefly* describe voluntary and involuntary muscle. *a,* What principal difference between them? *b,* Which is found in mucous membrane of intestinal canal? 6. Give structure of arteries. 7. Describe a primary cell. 8. Give general structure of skin. 9. Give structure of the blood. 10. Give structure of lymphatic gland.

DESCRIPTIVE ANATOMY.

1. Describe the growth, and name the principal parts of the ulna. 2. Name five muscles of the face, and their actions. 3. Name the organs, principal and accessory, included in the alimentary canal. 4. Name, and briefly describe, the serous membranes. 5. Define the structures of the wall of the intestines. 6. Describe the pneumogastric nerve, its origin, distributions, and functions. 7. What kind of blood is found in the: *a,* pulmonary artery; *b,* renal artery; *c,* hepatic artery? 8. Name ten nerve-plexuses. 9. About what proportion of the human body is blood? 10. Describe the tonsil.

SURGICAL ANATOMY.

1. What structures are encountered in operating for an inguinal hernia? 2. Name the parts involved in a dislocation of the elbow. 3. Outline the apex of the heart, and aortic valve, on the chest wall. 4. What organs can be palpated by digital examination of the rectum? 5. Differentiate between the anterior and posterior fontanelles.

GYNECOLOGY.

Describe the following diseases:

1. Amenorrhea—etiology; treatment. 2. Dysmenorrhea—etiology; treatment. 3. Metritis—etiology; treatment. 4. Sterility—etiology; treatment. 5. Uterine colic—etiology; treatment. 6. Peritonitis (pelvic)—etiology; diagnosis; treatment. 7. Ovaritis—etiology; diagnosis; treatment. 8. Albuminuria in pregnancy—*etiology; diagnosis; treatment. 9. Chorea during pregnancy*—etiology; diagnosis; treatment. 10. Pelvic cellulitis—etiology; diagnosis; treatment.

MENTAL AND NERVOUS DISEASES.

1. Briefly outline the chief symptoms of brain tumor. 2. Give *the different forms of epilepsy. Give the symptoms of apoplexy.* 4. In what part of the brain is rupture of the blood-vessel most frequently found? 5. How and where are tests made for reflex action? 6. Name some of the common forms of mental disease. 7. What is the difference between idiocy and imbecility? 8. Define chorea. At what age does it most frequently occur? 9. What is dementia? 10. Name some of the forms of insanity which require prompt treatment.

PRACTICE OF MEDICINE.

1. Describe three pathologic pulmonary sounds heard on auscultation, and give their significance in diagnosis. 2. Differentiate intestinal, uterine, and renal colic. 3. You are called in to see two patients, both of whom are vomiting frequently. In the one case you recognize the vomiting as due to acute indigestion; in the other, that it is due to deficient elimination of nitrogenized waste. Give the chief points that influence you in your diagnosis. Give treatment in each case. 4. Enumerate some of the diseases in which intestinal antisepsis is indicated, and state reasons for such treatment. 5. Give, briefly, the medicinal and dietetic treatment for cholera infantum. Differentiate between it and cholera morbus. 6. Write a formula for modified milk suitable for a normal child 3 months old. What quantity per twenty-four hours and how many feedings? 7. Give the medicinal and dietetic treatment of an attack of appendicitis. Differentiate the abdominal symptoms of the latter from the abdominal symptoms of: 1, enteric fever; 2 peritonitis; 3, intestinal colic; 4, intestinal obstruction. 8. Give differential diagnosis of uremia, epilepsy, hysteria, opium poisoning, and alcoholic coma. 9. Briefly describe the general management and treatment of membraneous croup. 10. Enumerate some of the diseases in which the nucleins and serums have been employed with success. Give physiologic action in such diseases.

GENERAL SURGERY.

1. Define inflammation. Give general principles for treatment. 2. Classify fractures. 3. What is the difference between asepsis and antisepsis? What is a disinfectant? 4. What is shock, and how would you treat it? 5. Give your treatment of early strangulated hernia—prognosis? 6. Give causes, diagnosis, prognosis and treatment of hemorrhoids. 7. Give cause, diagnosis, and treatment of empyema. 8. Describe McBurney's method of performing appendectomy, and give his method of locating the appendix. When should it be performed? 9. What are the indications for the removal of the mammary gland? 10. Give diagnosis and treatment of dislocation of bones.

PHYSIOLOGY.

1. Name the different secretions found in the alimentary canal, beginning at the mouth. 2. Describe the act of deglutition. 3. *How are foods classified* in relation to their uses in the body, and give the names that designate each class. 4. What are peptones, and how do they differ from other proteids? 5. What is the function of the lymphatic system? 6. What are some of the results of the failure of the lymphatics to perform their functions? 7. Beginning at the right auricle, follow the course of the blood until it reaches the aorta. 8. Describe the changes that take place in the blood during its passage through the capillaries of the lungs. 9. Describe the difference in the functions of an afferent nerve and an efferent nerve. 10. Explain the reason why the choroid coat of the eye is covered with dark pigment.

PATHOLOGY.

1. In a child 4 years old, with pneumonia, which is it more likely to be, croupous or catarrhal? Give reasons. 2. Define necrosis. Distinguish it from necrobiosis and gangrene. 3. Give, briefly, the pathologic condition of the lung in the different stages of fibrinous pneumonia. 4. Define a cyst. Give classification. 5. Hypertrophy: Is the term always correctly used, and if not, why? Mention some of the causes of hypertrophy and distinguish it from hyperplasia. 6. Give, briefly, the morbid anatomy of enteric fever. 7. Give the causes of convulsions in children. Wherein *does the "nervous discharge which* occurs in convulsions differ from that of ordinary epilepsy"? What part of the brain is involved, and what is the condition of the brain in the beginning of attack? 8. Discuss the pathologic condition known as leucocytosis. 9. Give an instance of an infiltration and a degeneration. Wherein do they differ? 10. State the pathologic conditions present in a case of chronic endometritis.

TOXICOLOGY.

1. What is the most frequent source—also give symptoms and treatment—of ptomain poisoning? 2. *What would be your treatment* in a case of poisoning from an acid? 3. What would be the symptoms, and what your treatment in a case of poisoning from strychnin? 4. Name two or more drugs known as depressants. 5. Name two or more drugs known as deliriants. 6. What are the symptoms, and how would you treat a case of poisoning from coal gas? 7. How would you treat a case of opium poisoning? 8. What are the symptoms of carbolic acid poisoning, and what would be the treatment? 9. Give symptoms of uremia. 10. Describe how you would conduct a post-mortem, in a case of suspected poisoning, if you expected to be called into court to give evidence.

SURGICAL PATHOLOGY.

1. Give pathology of gastric ulcer. 2. Give cause and pathology of gangrene. 3. Give pathology of psoas abscess. 4. Give pathology of acute synovitis in a strong, plethoric athlete, and dangers from fibrous deposits in the blood—with treatment. 5. Give *pathology and treatment of septicemia.*

MEDICAL JURISPRUDENCE.

1. What is the difference between character and reputation? 2. Define infanticide. 3. Define abortion. When is it not a crime? 4. Define lunacy. 5. Wherein does lunacy differ from idiocy? 6. Explain the difference between expert and ordinary testimony. 7. Under what circumstances is a physician excused from obeying a subpena? 8. Distinguish criminal malpractice from ordinary. 9. What is medical jurisprudence? 10. What collateral science in medicine is it that most requires study in cases of poisoning as pertinent to medical jurisprudence?

THERAPEUTICS.

1. Give principal use and dose of apomorphin. 2. Name five cardiac stimulants and dose of each. 3. Give doses of following: Dover's powder, tinct. nux vom., fl. ext. ergot, atropin, dilute HCl, chloral, phenacetin. 4. Write prescription for chronic constipation in adult. 5. Describe action of digitalis on heart; dose—tincture, fluid extract, infusion—in what condition of heart is digitalis especially useful? 6. Give relative dose of drug per mouth, rectum and hypodermically. 7. Define anthelmintic, emmenagogue, diaphoretic, soporific, emetic. Give example of each. 8. Give *source of opium; therapy. Give two principal alkaloids of opium* and dose of each. 9. What is an infusion, decoction, elixir, mixture, fluid extract, tincture? 10. What is strychnin? Give three conditions in which its use would be indicated. How would you treat a case of strychnin poisoning?

NEW PATENTS.

Patents of interest to physicians, April 17 to May 1.

647,551—Truss, John Brain, Bracebridge, Ont., Canada.
647,559—Producing ethylene gas, James A. Deuther, Buffalo, N. Y.
647,603—Sterilizer for surgical dressing, Theodore Y. Kinne, Paterson, N. J.
647,665—Abdominal bandage, Cornelia Lush, Jackson, Minn.
647,527—Invalid bed table, Wilhelm Schleuning, Freihung, Germany.
647,687—Electrotherapeutic device, Thomas W. Topham, New York City.
32,526—Design, Ozone generator, Henry E. Waite, New York City.
648,334—Hernial truss, Ashbel P. Marlow, St. Joseph, Mich.
647,935—Truss, Milton B. Belden, Jamestown, N. Y.
648,028—Device for preventing mouth-breathing, Josephus Hooper, Louisville, Ky.
648,173—Ophthalmometer, Emil B. Meyrowitz, New York City.
647,993—Making capsules, Johann Schmidt, Nuremberg, Germany.
648,368—Hernial truss, James M. Tarrant, Denver, Colo.
648,322—Making nitric acid, John F. White, Buffalo, N. Y.
32,566—Design, Pessary, Wm. Gagnier, Milwaukee, Wis.
32,565—Design, Mouthpiece for prevention of mouth-breathing, Josephus Hooper, Louisville, Ky.
648,374—Inhaler, Thomas N. Barnes, Weston, W. Va.
648,580—Making ethereal salt of formic acid, Auguste Behal, Paris.
648,389—Making acetone, Harry O. Chute, Deseronto, Ont., Canada.
648,656—Atomizer, Allen De Vilbiss, Toledo, Ohio.
648,660—X-ray apparatus, Reginald A. Fessenden, Allegheny, Pa.
648,764—Apparatus for producing ozone by electricity, Joshua H. Lamprey, London, England.
648,594—Wafer capsule, Karl Morstadt, Prague, Austria-Hungary.
648,673—Electrical apparatus for surgeons' use, Henry Schlesinger, New York City.

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., April 28 to May 4, 1900, inclusive:

Charles H. Alden, colonel and asst.-surgeon-general, U. S. A., retired from active service April 28, 1900, by operation of law, under the provisions of an act of Congress, approved June 30, 1882.

James A. Alexander, acting asst.-surgeon, from Fort Fremont, S. C., to Tampa, Fla., and thence to Havana, Cuba, for duty in the Division of Cuba.

H. Eugene Allen, acting asst.-surgeon, from Chicago, Ill., to duty in the Department of Texas.

Charles Bruning, acting asst.-surgeon, from New Orleans, La., to Tampa, Fla., and thence to Havana, Cuba, for assignment to duty.

August von Clossman, acting asst.-surgeon, from St. Louis, Mo,, to duty at Jefferson Barracks, Mo.

Edward Everts, captain and asst.-surgeon, U. S. A., retired from active service as a major, April 28, 1900, having been found physically disqualified by reason of disability incident to the service.

Robert J. Gibson, major and surgeon, U. S. A., from the hospital ship *Missouri* to temporary duty in the Department of California.

William C. Gorgas, major and surgeon, U. S. A., from the department of Havana and Pinar del Rio, Cuba, to duty as chief surgeon, Division of Cuba.

Randell C. Stoney, acting asst.-surgeon, from temporary duty at the Presidio of San Francisco to duty in the Department of California.

Harrison W. Stuckey, acting asst.-surgeon, former orders, requiring him to accompany troops to Manila and report for duty in the Division of the Philippines, revoked.

Hedley V. Tweedie, acting asst.-surgeon, from Jackman, Me., to Seattle, Wash., for duty at Fort Egbert, Alaska, or other post, if deemed advisable.

Benjamin B. Warriner, acting asst.-surgeon, from Crewe, Va., to Fort Fremont, S. C., for post duty.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ended April 28, 1900.

P. A. Surgeon L. Morris detached from the *Brooklyn* and ordered to the *Baltimore*.

P. A. Surgeon J. Stoughton, detached from the *Bennington* and ordered to the *Castine*.

Asst.-Surgeon T. M. Lippitt, detached from the *Baltimore* and ordered to the *Oregon*.

Asst.-Surgeon J. C. Thompson, detached from the *Castine* and ordered to the *Bennington*.

Asst.-Surgeon A. G. Grunwell, detached from the *Yosemite* and ordered to the *Brooklyn*.

P. A. Surgeon J. F. Leys, detached from the *Essex* on reporting of relief, and ordered home and to wait orders.

Asst.-Surgeon C. H. DeLancy, detached from the *Amphitrite* and ordered to the *Essex*.

Asst.-Surgeon J. C. Thompson will return to the United States by the *Bennington*.

P. A. Surgeon A. Farenholt will return to the United States by the *Concord*.

P. A. Surgeon M. R. Piggott, from the naval academy and ordered to the *Chesapeake* same day.

Asst.-Surgeon K. Ohnesorg, detached from the naval academy and ordered to the *Newport* same day.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended April 26, 1900.

Surgeon J. M. Gassaway leave of absence for 5 days from April 23, 1900, under the provisions of Par. 179, Regulations, M. H. S.

P. A. Surgeon C. P. Wertenbaker, detailed to represent the service at the meeting of the Association of Military Surgons of the United States at New York City, May 31 to June 2, 1900.

P. A. Surgeon W. G. Stimpson, granted leave of absence for ten days from April 28, 1900.

Asst.-Surgeon John McMullen, granted leave of absence for seven days; upon expiration of leave of absence to proceed to the Gulf Quarantine Station, Miss., and report to medical officer in command for temporary duty.

Asst.-Surgeon Joseph Goldberger, upon being relieved from duty at the Immigration Depot, New York City, to proceed to the Reedy Island Quarantine, Del., and report to the medical officer in command for duty and assignment to quarters.

Acting Asst.-Surgeon J. B. Eagleson, granted leave of absence for three days from May 8, 1900.

Acting Asst.-Surgeon J. C. Rodman granted leave of absence for four days from April 23, 1900.

Hospital Steward E. T. Olsen, upon being relieved from duty at Wilmington, N. C., to proceed to Mullet Key Detention Camp, Fla., for duty.

Hospital Stewart C. F. Crowley, to proceed to Wilmington, N. C., and report to the medical officer in command for duty and assignment to quarters.

PROMOTIONS.

P. A. Surgeons T. B. Perry, R. M. Woodward and G. T. Vaughan, commissioned as surgeons.

APPOINTMENTS.

Charles F. Crowley, of Nebraska, appointed junior hospital steward.

HEALTH REPORTS

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General U. S. Marine-Hospital Service, during the week ended May 5, 1900.

SMALLPOX—UNITED STATES.

Alabama: Mobile, April 14 to 28, 14 cases.
District of Columbia: Washington, April 21 to 28, 1 case.
Illinois: Chicago, April 21 to 28, 11 cases.
Kansas: Wichita, April 21 to 28, 8 cases.
Indiana: Evansville, April 21 to 28, 2 cases; Indianapolis, April 21 to 28, 7 cases.
Kentucky: Covington, April 21 to 28, 6 cases; Lexington, April 21 to 28, 1 case.
Louisiana: New Orleans, April 21 to 28, 43 cases, 25 deaths.
Massachusetts: Boston, April 21 to 28, 1 case.
Michigan: Detroit, April 21 to 28, 1 case; Grand Rapids, April 7 to 28, 1 case, 1 death.
Minnesota: Minneapolis, April 14 to 28, 47 cases, 1 death.
New York: New York, April 21 to 28, 2 cases.
Ohio: Cleveland, April 21 to 28, 12 cases.
Utah: Salt Lake City, April 21 to 28, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, April 1 to 7, 2 cases.
Belgium: Ghent, April 7 to 14, 2 cases.
Brazil: Rio de Janeiro, March 2 to 23, 42 deaths.
China: Hongkong, March 10 to 31, 10 cases, 5 deaths.
England: Liverpool, April 7 to 14, 9 cases, 2 deaths; London, April 7 to 14, 3 deaths.
Gibraltar: April 8 to 15, 4 cases.
Greece: Athens, April 7 to 14, 5 cases, 1 death.
India: Bombay, March 27 to April 3, 120 deaths; Calcutta, May 3 to 10, 10 deaths; Kurrachee, March 24 to April 1, 27 cases, 6 deaths.
Japan: Nagasaki, March 21 to 31, 1 case; Tamsui, February 22 to 28, 87 cases.
Mexico: Chihuahua, April 14 to 21, 2 deaths; Guadalajara, April 21, epidemic.
Russia: St. Petersburg, March 24 to April 17, 80 cases, 24 deaths.
Scotland: Glasgow, April 7 to 14, 1 case.
Spain: Madrid, April 1 to 7, 10 deaths: Valencia, April 14, 1 case and 1 death.
Straits Settlement: Singapore, March 19 to 26, 7 deaths.

YELLOW FEVER.

Brazil: Rio de Janeiro March 2 to 23, 104 cases, 50 deaths.
Colombia: Panama, April 10 to 24, 4 cases.
Costa Rica: Port Limon, April 21, 1 death.
Cuba: Neuvitas, April 24, 1 case.
Mexico: Vera Cruz, April 14 to 21, 3 deaths.
San Salvador: Livingston, April 11, epidemic.

CHOLERA.

India: Bombay, March 27 to April 3, 7 deaths; Calcutta, March 3 to 10, 74 deaths.

PLAGUE.

India: Bombay, March 27 to April 3, 685 deaths; Calcutta, March 3 to 10, 601 deaths; Kurrachee, March 24 to April 1, 248 cases, 166 deaths.
Japan: Tamsui, February 1 to 28, 47 cases, 38 deaths.

CHANGE OF ADDRESS.

Brown, G. R., from 49 W 5th St., Cincinnati, Ohio, to Pleasant Valley, Ky.
Bredehoft, J. C., from Kansas City, Mo., to Bucklin, Kan.
Binkley, J. T., from 452 E. 49th St., to Windemere Hotel, Chicago, Ill.
Caldwell, W. S., from Vienna, Austria, to 7 Rue Scribe, Paris, France. Care of Monroe & Co.
Chesmore, H. P., from St. Joseph, to Nodaway, Mo.
Campbell, W. L., from 504 Olive St. to 123 Brooklyn St., Kansas City, Mo.
Anderson, C. L., from 2400 Chestnut Ave. to 2316 Agnes St., Kansas City, Mo.
Dunn, B. S., from Whitestone, N. Y., to Ardsley on Hudson.
Devine, G. C., from Chetek to Mason, Wis.
Dye, J. S., from Little Rock, Ark., to Chattanooga, Tenn.
Grottheess, J. O., from Wauwatosa to Ixonia, Wis.
George, L. C., from Alexandria to Shreveport, La.
Hunter, R. B., from Winchester, Ky., to 904 South St., Springfield, Mo.
Hering, E. R., from Manawa to Cross Plains, Wis.
Hutchins, S. E., from Arcadia to Whitehall, Wis.
Halstead, A. E., from 844 Warren Ave. to 2937 Indiana Ave., Chicago, Ill
Harold, A. W., from Iowa City to Ackley, Iowa.
Hibbs, W. A., from 618 Kansas Ave., Topeka, to Delphos, Kan.
Hemingway, W. C., from Rome to Lambert, S. C.
Jernigan, V. J., from Union City to Obion, Tenn.
Johnson, I. E., from Lebanon to Lebanon Junction, Ky.
Kent, F., from New Orleans, La., to Gonzales, Tex.
Kirby, E. G., from Salem to Elgin, Ore.
Lehman, C. A., from 2009 Market St., to Gill & League Bldg., Room 13, Galveston, Texas.
La Rue, H. M., from 511 E. 8th St., to Savoy Hotel, Kansas City, Mo.
Lamerton, E. W., from Chicago, Ill., to Wyoming, Iowa.
Litzinger, G. H., from Kansas City, Mo., to Milford, Kans.
Miller, E. E., from Omaha to Surprise, Neb.
McCullough, S. S., from Itasca, Texas, to Ramsay, Miss.
Medringhaus, R. E., from St. Louis to Eagle, Mo.
Le Moyne, F., from Pittsburg, Pa., to Melvale, Md.
Major, C., from Salt Lake City, Utah, to Denison, Iowa.
Mitchell, J. M., from 42 Laflin St., Chicago, to Pontiac, Ill.
Morcom, H. W., from 618 W. Monroe St. to 165 Wood St., Chicago, Ill.
Marugg, A., from Delaware to Monticello, Iowa.
Maxey, E. E., from Caldwell, Idaho, to Johns Hopkins Medical College, Baltimore, Md
Miller, J. H., from Pana, Ill., to 1901 Jefferson St., Baltimore, Md.
Pettyjohn, E. S., from Alma, Mich., to Stewart Bldg., Chicago.
Peehn, F., from Ives Grove, to West [illegible] s.
Platt, J. J., from Pembina, N. D., to [illegible]
Riley, B. M., from 518 N. 19th St. to St. Joseph's Hospital, Omaha, Neb.
Reitzel, W. M., from Waterville to Bremen, Kan.
Snow, H. O., from Abbeville to Douglas, Ga.
Smith, E. A., from 1928 Archer Ave. to 1910 State St., Chicago.
Spearman, G. T., from Kelly, Ga., to Hamilton, Texas.
Thill, D. P., from 766 Smith St. to 1101 North Ave., Milwaukee, Wis
Waller, E. E., from Allegheny to Markleton, Pa.

The Journal of the American Medical Association

Vol. XXXIV CHICAGO, ILLINOIS, MAY 19, 1900. No. 20.

Original Articles.

THE PRESENT STATUS OF OPERATIONS FOR CANCEROUS UTERI.*

BY HOWARD A. KELLY, M.D.

BALTIMORE, MD.

We are one and all curious creatures of habit and victims of fancy. For example, if a little epidemic of smallpox claims a dozen victims or so, everybody is horror-sticken and large numbers of people are vaccinated as a precautionary measure. This is because smallpox is associated with a horrible disfiguring eruption. Thousands of victims die year by year of typhoid fever, in many of our large cities—notably in Philadelphia, through a long series of years—at a time in the world's history when it has long been shown that about one in a hundred thousand is what may be considered an average death-rate in well-regulated communities, and the most public interest that can be aroused is an occasional little spasmodic flutter in the newspapers. And this goes on indefinitely when every child knows that pure water will stop the disease, and when the pure water is within reach. The same is true of the awful scourge, tuberculosis, when we know that clean streets and good sanitation, all within easy reach of communities already spending sums vastly in excess of those abroad of equal size, will largely tend to check the disease. Let us not blame the politicians, degraded as most of them are, but let us blame the low moral standard of the whole body politic of which we are a component part and in which we ourselves bear our due share of the odium. The same is true of that terrible scourge, cancer. What systematic, thorough-going, persistent efforts are we making to get at the root of the matter, to make a notable reduction in the number of its victims? Are we not all of us simply treating the few cases that come into our hands without reference to the enormous crop which goes on increasing year by year.

Welch has collected statistics which show the frightful prevalence of cancer in civilized countries. He gives these data:

PRIMARY CANCERS.	STOMACH.	UTERUS.
11,131 in Vienna	10 per cent.	31 per cent.
7,150 in New York	25.7 per cent.	24.2 per cent.
9,118 in Paris (Tanchou)	25.2 per cent.	32.8 per cent.
1,378 in Paris (Salle)	31.9 per cent.	32 per cent.
587 in Berlin	35.8 per cent.	25 per cent.
183 in Wurzburg	34.9 per cent.	19 per cent.
1,046 in Prague	37.6 per cent.	33.3 per cent.
889 in Geneva	45 per cent.	15.6 per cent.
31,482 Total	21.4 per cent.	29.5 per cent.

Commenting on this large group of cases he says: "From this table it appears that in some collections of cases the uterus is the most frequent seat of primary cancer, while in other collections the stomach takes the first rank. If the sum total of all the cases be taken, the conclusion would be that about one-fifth of primary cancers are seated in the stomach and somewhat less than one-third in the uterus. Even if allowance be made for the apparently too low percentage of cases of gastric cancer in the large Vienna statistics, I should still be inclined to place the uterus first in the list of organs most frequently affected with primary cancer and to estimate the frequency of gastric cancer compared with that of primary cancer elsewhere as not over 25 per cent."

Who that has never been affected by the disease can even begin to estimate the awful sum total of misery suffered by one patient as the disease progresses to its dreadful end.

It would, therefore, seem not unfitting that we should gather from time to time: 1. To discuss our individual results in the treatment of cancer. 2. To criticise each other and to inquire as to the best methods of treatment. 3. To forecast as nearly as may be the best lines of investigation for the immediate future.

In the first place I will lay down the dictum long since accepted but still needing reiteration in our country, that *in every case of cancerous uterus the entire organ must be removed.*

All well know that an epithelioma of the cervix tends in its upward progress to respect in a remarkable way the line of demarcation between the cervix and the body of the uterus, and that an adenocarcinoma of the body in like manner shows a remarkable tendency to limitation at the internal os uteri. There is, therefore, a temptation, particularly in the early stages of these diseases, to do a lesser operation, amputating the cervix, or removing the body.

Let me emphatically declare again that all such partial operations are wholly unjustifiable, as, speaking on the basis of 176 cases of my own, studied most minutely, I find that the exceptions are so numerous that they must for practical purposes be reckoned as the rule. In one instance, many years ago, I left in the vaginal end of the cervix, in a case of carcinoma of the body, and several years later the poor woman returned with the cervix thoroughly diseased and an extensive involvement of the rectum as well. In other cases of cancer of the cervix I have found the disease repeatedly in the body and in one it missed the body but was in the tubes!

The great opprobrium of all our operations lies in the fact that we often leave some of the disease behind. It is essential, therefore, to an intelligent discussion as to the best methods of attacking the disease, that we shall agree as to the methods by which it extends into the neighboring tissues. We have just seen that the entire uterus must be regarded as suspected and therefore removed. With the uterus *we must remove the uterine tubes in all cases of cancer of the body.*

The next great danger area is the vaginal vault. Cervical cancer in many instances extends down the vagina in an invisible form under the mucosa, without at first causing any perceptible infiltration or blush of color to excite suspicion. Every operator has seen, at one time or another, a distressingly early recurrence in the scar at the vaginal vault, due to the rapid growth of foci which ought to have been exterminated at the radical operation. It is therefore a necessary precaution *to give the disease a wide berth on the vaginal side, cutting at least 2 or 2.5 cm. away from it.*

---

* Read before the New York County Medical Association, April 16, 1900.

Anteriorly the disease often involves the base of the bladder before it has extended far in any other direction; here *good surgery will readily sacrifice and repair the entire affected vesical area, leaving it sticking to the cervix uteri.*

The posterior extension of the cancer, in the earlier operable stages of the disease, is fortunately rare, as it is peculiarly difficult to meet this complication with anything like a real radical operation.

Almost all cases of involvement of the bowel are also associated with an extensive lateral involvement.

The lateral extensions of cancer of the cervix to the right and to the left, out through the bases of the broad ligaments, surrounding the ureters, reaching to the pelvic walls, involving the pelvic and the iliac glands, are by far the most important because the most frequent and the most difficult to meet therapeutically.

I think we have all agreed so far, and my dicta will have aroused no opposition, but here we meet our first crux, here opinions are widely divergent. What is the mode of this lateral extension? Is it *per continuitatem,* or is it *per saltum?* Is there a direct steady progression of the disease from the cervix out into the neighboring and from there into the contiguous tissues? Or should we expect to find beyond the manifest disease, a zone of sound tissue, and then isolated foci of disease in the tissues or in the glands? It is at once manifest that according as we hold one or the other of these opposing views, our surgical procedures will vary widely. For the sake of comparison let me cite the operations for cancer of the breast. Under the old idea that the disease was localized in the breast the surgical measures were limited to its amputation. Now the knowledge that the disease jumps from the breast into the axilla and from the axilla into the neck has completely transformed the surgery of this region.

Attracted by an apparent analogy between cancer of the breast and cancer of the uterus, and believing that the frequent recurrences were due in large measure to glandular metastases, there was worked out in my clinic several years ago, by Dr. S. G. Clark, a most ingenious operation, in which the uterine artery was tied back at its origin and the tissues between this and the cervix, together with the glands, were all removed, in addition to dissecting out and removing pelvic and iliac glands. This operation was radical to an extent that no operation had ever been before, and for a time we hoped for great things from the change in our methods, but the close sifting of my material, which immediately followed this change, together with the careful microscopic study of all the glands removed, showed that there was but one case—an adenocarcinoma of the cervix—in which there was an early glandular involvement, while in numerous others, in which I had removed enlarged glands and in which I felt sure from the gross appearance that I was removing cancerous foci, the microscopic study showed nothing but an infiltration with mononuclear and polymorphonuclear leucocytes. Winter has found but two cases of glandular involvement in 44 operable cases examined.

Allow me therefore to state, further, these two dicta: *Cancer of the cervix usually extends by direct involvement of the contiguous tissue. Extension by glandular metastases per saltum is unusual in the earlier operable stages of the disease.*

If these statistics are borne out by further investigations, then practical deductions of enormous import flow directly as corollaries from these dicta. The operator must concentrate his whole efforts in giving the diseased cervix the widest possible berth, and if he enucleates well out in sound tissues he need not concern himself about the tissues beyond.

One more consideration of the utmost importance, which is bound to have great weight in determining the best mode of operating: What is the danger of implanting cancerous germs and starting fresh foci in the sound tissues in the course of an operation in which the uterus with all the diseased tissues has been enucleated? Experiments from the time of von Langenbeck have shown that it is possible to inoculate cancer either by injecting bits of cancerous tissue into the circulation, when the particles form cancerous emboli which may continue to grow, or by implanting them under the skin, or in the peritoneal cavity. These implantations are much more apt to flourish if they are taken from an animal of the same species and if the transfer is carried out aseptically.

The clinical evidence of the implantation of carcinoma in women is abundant in all cases of peritoneal cancer where the rapid dissemination of the growth is manifestly due to the lodgment of small particles here and there and their continued growth in the new region.

In one of my cases of (Gyn. 3323) extensive ovarian papillomata, seen in February, 1895, there was an extension of the papillary disease from the peritoneal surface out through the abdominal wall to within 2 mm. of the skin surface, through the track of an old trocar puncture. The papillary growth in this unusual situation preserved its ordinary characteristics and many of the little cavities containing the dendroid masses were also filled with desquamated epithelium and polymorphonuclear leucocytes.

A case which I believe was without doubt one of autoimplantation from adenocarcinoma of the body of the uterus into the vagina was that of a patient seen in November, 1895, and illustrated (Nos. 174 and 175) in the first volume of my book (pp. 256, 257). The vaginal affection retained all the characteristics of the uterine growth, which, however, was not suspected to exist at the time the isolated patches of the vaginal disease were removed.

Positive evidence that the cancerous particles can be sown into the abraded epithelial surfaces or into the cellular tissues in the course of an operation for cancer is not abundant, but such evidence as there is is significant; for example: in 1891 Schoff reported a case in which, owing to the narrowness of the vagina, he was obliged to make incisions on each side in order to get at the diseased uterus. Three months later cancerous nodules were found in the scars in both sides of the vagina, without any evidence of a return of the growth in the pelvis above.

Hofmeier had a similar case in 1895, and in less than a year an ulcerated nodule was found below in the left vaginal scar, with no return of the vault. Both the original disease and the implantation were adenocarcinomata. Leopold noted the implantation of a squamous-celled carcinoma on an abrasion produced by the leg holder, observed at the operation. The nodule appeared within a year and was as large as a walnut.

It is a little difficult to estimate the practical value of such observations and to decide how far they are entitled to influence our technique. The implantations in the vagina below the field of operation are, everyone will acknowledge, rare accidents. The question may be fairly raised whether there is even a small liability of a successful inoculation of the disease in the loose parametric cellular tissue when drainage is used and the wound heals slowly by granulation.

Having in this way cleared the field for the discussion, I will give in the briefest possible manner the practical results of my own work, and a résumé and a critique of various methods of operating.

First and foremost is it not worth while to operate at all on a cancerous uterus? Do not all patients thus affected sooner or later die of a return of the disease? There is a widespread conviction through the entire medical profession, a conviction which, if I mistake not, has found utterance even here in New York through prominent specialists, that the radical operation is really of no lasting benefit, and is one of those things specialists do because they are specialists, but which they would really better leave undone.

In citing my statistics in answer to this query let me say that I have included only those cases in which the uterus has been subjected to a rigid microscopic examination at the hands of Dr. T. S. Cullen, my associate professor of gynecology. I know of others still older and in perfect health where there was no doubt as to the diagnosis, but I have not included them, as the entire group of cases operated on at that time has not been rigidly criticised microscopically.

Of this special group of my cases so examined there are 103 operated on and divided as follows: well, without relapse, Jan. 1, 1900—squamous-celled carcinoma of the cervix, 61 cases, 13 in all living or 21 per cent.; adenocarcinoma of the cervix, 12 cases, 2 in all living or 16 per cent.; adenocarcinoma of the body, 30 cases, 19 in all living or 63 per cent.

The periods of time in which these patients have remained well are as follows:

ADENOCARCINOMA OF THE BODY.

Gyn. No.	Gyn. Path. No.	Time since operation. Years.	Months.
2436	100	6	0
2817	321	5	6
2832	345	5	6
2934	392	5	4
Sanitarium.	944	4	0
4262	1133 and 1137	3	8
Dr. Eccles.	1154 and 1192	3	8
Sanitarium.	1349	3	7
Sanitarium.	1350	3	5
4745	1358	3	0
4746	1359	3	2
Sanitarium.	1412 and 1414	2	9
4922	1473	1	11
5876	2161 and 2183	1	10
5958	2238	1	9
6008	2279 and 2283	1	8
6535	2291 and 2750	1	1
6581	2797	0	11
6659	2897	0	11

If we take it for granted that the two patients where the subsequent history could not be obtained, are dead, we still have 19 out of the 30, or *63 per cent., showing no evidence of a return of the growth at the present time.*

Of the patients with adenocarcinoma of the cervix who are well at the present time, one was operated on five years and seven months, the other five years and three months ago.

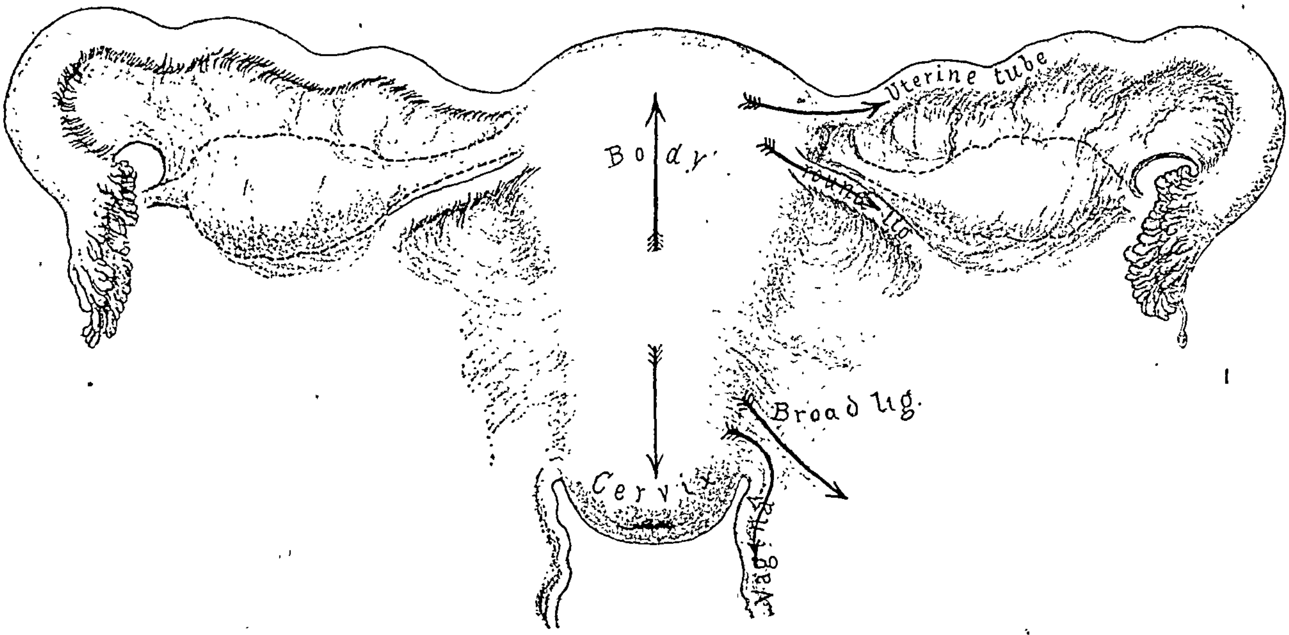


Fig. 1.—Cervical section of the uterus showing the directions in which a cancerous form in the cervix may spread down the vagina, up into the uterine body and out into the broad ligament, following the direction of the arrows. A cancer of the body in its advanced stage often follows the direction of the upper arrows out into the tube or down the round ligament as well as down toward the cervix.

SQUAMOUS CARCINOMA OF THE CERVIX.

Gyn. No.	Gyn. Path. No.	Time since operation. Years.	Months.
2294	78	6	2
2452	109	6	0
4489	1244	3	6
4806	1384 and 1396	3	1
5266	1764	2	6
5577	1936	2	3
5853	2142 and 2152	1	10
5959	2263	1	9
6368	2611	1	3
6492	2706	1	0
Sanitarium.	2771	1	11
6560	2782 and 2794	1	0
6656	2890	0	10

I advance no other argument than the bare presentation of these facts: *17 out of 34 patients are well without any sign of a recurrence, at periods extending from three to six years, and 8 over five years since operation*—an eloquent tribute to the success of the radical operation, which would still be justifiable if only a far smaller percentage of the number could be saved from a life of such dreadful suffering with its inevitable outcome.

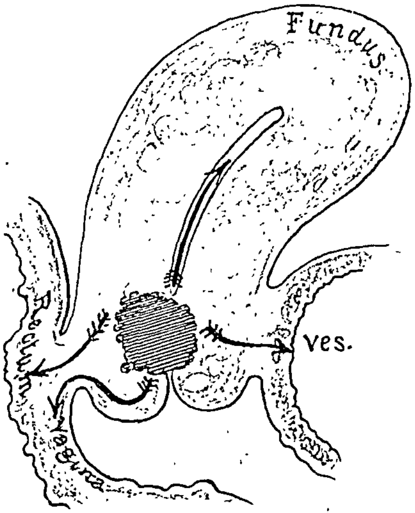


Fig. 2.—Shows the lines of possible progress of the disease in a sagittal section of the uterus forward into the bladder, down into the vagina, up into the body, and back into the rectum.

Granted then that an operation is justifiable, what particular form of operation gives us the best chance of success? Manifestly that procedure which, with the least immediate risk, enables us to give the diseased area the widest possible berth.

Let me then lay down the following dicta, which have been my guiding principles, for your consideration:

The old plan of skinning or shelling out the bare uterus is of all methods the most liable to be followed by a recurrence, and must be abandoned.

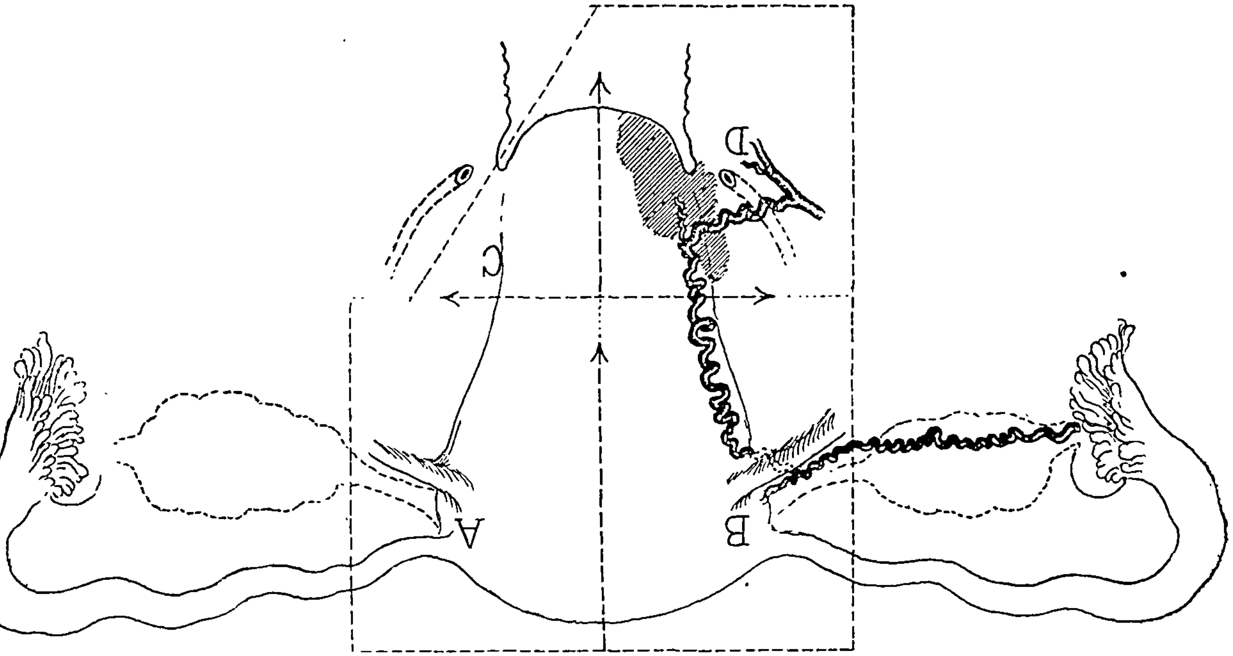


Fig. 3—Shows the method of extirpating the disease by quadrisection of the uterus. The uterus is first bisected vertically, and segments A and B are removed by cutting out into the broad ligaments, controlling the uterine vessels, then pulling them up in turn and catching the ovarian vessels, removing the entire uterine body in this way. Segment C is next removed, keeping the ureter under touch and giving the cervix a wide berth in tying out into the broad ligament. The real operation begins, however, with the removal of the last segment D, in the side of the infiltration of the broad ligament, and this is done with the sacrifice of all the tissue out to the pelvic wall, including the ureter if necessary.

Distasteful as my pertinacity on the next head may be to many who care nothing for cystoscopic work or its methods, I must insist *on the supreme importance of catheterizing the ureters, as I have done in all these cases, in order to mark them out during the operation and to enable the operator to work boldly instead of timidly in the parametric tissue.*

It is true that it is possible to distinguish the ureters without the bougies, during an abdominal operation, but it can not be done with the same facility, or indeed with any facility whatever; the operation is delayed and the ureter can not be pushed aside as it can when it is splinted by the bougie. In a vaginal operation the difficulties of recognizing the ureter are sometimes almost insurmountable if it is not catheterized. This plan, first put into practice by Pawlik, by slipping a bougie into the ureter through a director and through the water-distended bladder, has for the first time been generally practicable as a routine procedure by my aërocystoscopic method.

Further, *the disease must be given a wide berth by ligating far out in the parametrium and, if necessary, dissecting out the ureters,* and *on the vaginal side by cutting far below the manifestly affected area.*

I have now gone as far as I am able to go with assurance; if these principles are borne in mind any operative procedure whatever, which is based upon them, will give results vastly better than those we have secured hitherto. Clark's operation, so thorough in its wide dissection, must receive a most careful consideration. A large series of statistics must show us just how often glandular metastases are to be found in operable cases, then by comparing this fact with the increased risk to life from the more prolonged difficult abdominal operation, we will be in a position to decide whether the immediate danger incurred is or is not less than the risks of recurrence of the disease in the glands.

Having in mind the risks of inoculation of the cancer in the cellular tissues, X. O. Werder, of Pittsburg, Pa., has devised an admirable operation which is at present being extensively tried by Dr. W. W. Russell, my associate professor of gynecology in the Johns Hopkins University. This consists in a combined abdominal and vaginal enucleation, opening the abdomen and ligating and freeing the uterus on all sides, together with the upper part of the vagina. The removal is then affected *via* the vagina, by simply pulling the cervix well down to the vulva and cutting through the vagina at the lower limit of its detachment. In this way there is the least possible contamination. I have tried this operation and am greatly impressed by it.

My most earnest efforts have, however, been turned in another direction, and I will close by briefly describing the operation which I have recently devised and practiced in the cases cited at the end of this paper.

There are two major steps in the procedure:

1. The removal of the tissue down to the side where the infiltration extends deepest.
2. The concentration of all the energies of the operator to the completest possible removal of this last segment.

The steps of the operation are these: Thorough curettage with a serrated spoon curette, division of the vagina on all sides an inch below the diseased area; separation of the vagina from the bladder up to the vesico-uterine peritoneal fold, which is widely opened; a wide opening of the posterior cul-de-sac. The uterus, now hinged by its broad ligaments, is brought out through the anterior opening as in Martin's operation on the adnexa. This is easily done by pushing back the cervix and climbing up the anterior face of the uterus, step by step until the fundus is reached, with stout-toothed forceps. The peritoneum posteriorly is well protected by an abundant loose gauze pack. The next step is the sagittal bisection of the uterus from the fundus through the cervix and the attached vagina, with scalpel and scissors. As the uterus is cut in halves in this way, each median surface is grasped and held down by a strong-toothed forceps. One half, the most affected, is now allowed to retract into the vagina, while half of the body of the uterus of the other side is removed by bisecting it horizontally at the cervical junction. cutting from the median cut surface out into the broad ligament and exposing in this way the uterine artery, which is clamped. The upper half, the body, is now grasped afresh on the cervical side and pulled upward until first the round ligament then the ovarian vessels come into view and are clamped. when this quadrant of the uterus is removed. The opposite quadrant, that is to say the other half of the uterine body, is next removed in the same way. The uterine vessels are now ligated, and the ovaries and tubes are removed after ligating the ovarian vessels near the pelvic brim. The side of the cervix least affected, and there is generally a marked difference, is now removed, carefully tying the vessels as they are exposed and keeping the finger constantly on the ureter.

The steps of the operation thus far described have as a rule been easily and rapidly carried out. Three-quarters of the uterus have been removed and the remaining quadrant, that side of the cervix where the infiltration is most marked, now remains to be extirpated also, completing the operation.

In reality so important is this last step that the operation—*sensu strictiori*—may at this point be looked upon as only having just begun. All the skill and dexterity of the operator must now be concentrated on the effort to secure the most thorough, wide extirpation of the remaining nodule. In order to meet this supreme indication and to fight the disease in the only stronghold where its invasion has given it a firm hold on the tissues, the extirpation of the three portions of the uterus, that is to say, the entire body and half the cervix, has afforded a maximum space, while the bisection allows the remaining mass to be rotated downward and outward within easier reach.

It is a question with me whether ligature or cautery offers the best chance to go deepest into the tissues in meeting this supreme indication. The ureter will as a rule be bared, and if it is clearly involved in the disease it should be sacrificed without compunction, cut off and reanastomosed into the base of the bladder farther back. The operation may then proceed just as if the ureter did not exist, and the enucleation may be extended all the way out to the pelvic wall. It is my practice, after the completion of the enucleation, to close the wound in the middle and draw down both [illegible]ies. In simpler cases I close the per[illegible]

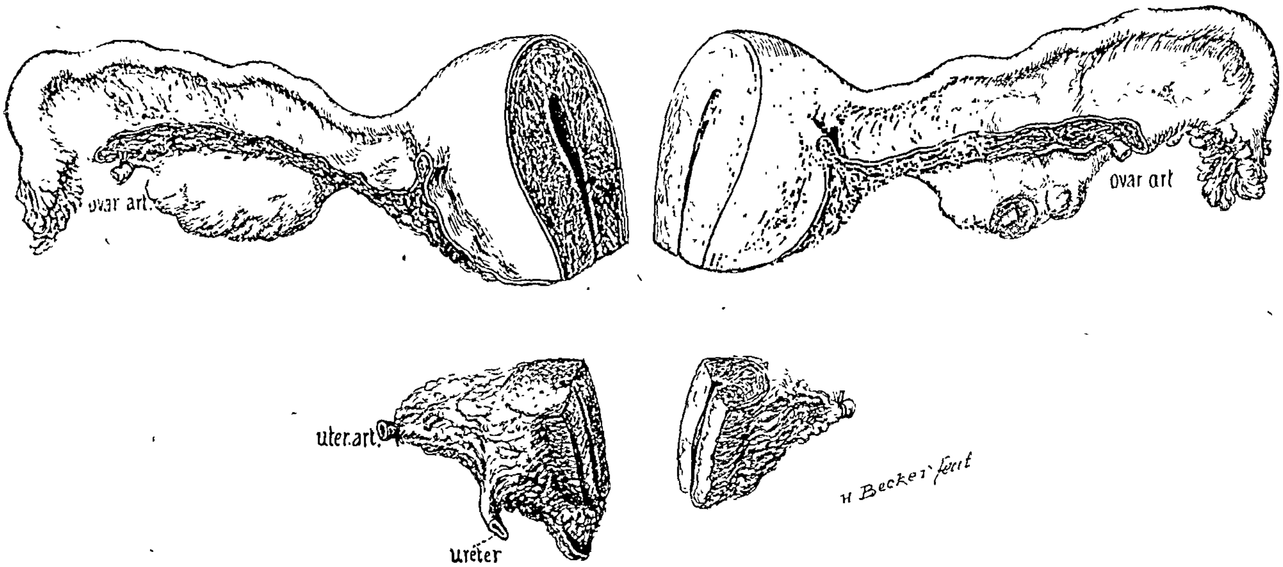


Fig. 4—Shows the four pieces of a cancerous uterus extirpated by quadrisection. On the right side a large section of the ureter has been removed with the cervix.

The following cases have been operated on in this way:

CASES TREATED BY QUADRISECTION OF THE UTERUS.

F. J.,	Nov. 7,	1899,	Gyn.	No.	7351
S. S.,	Nov. 14,	1899,	"	"	7370
E. J.,	Nov. 14,	1899,	"	"	7371
S. T.,	Nov. 18,	1899,	"	"	7384
E.M.,	Nov. 29,	1899,	"	"	7405
K.H.,	Nov. 30,	1899,	"	"	7411
M. J.,	Dec. 21,	1899,	"	"	7428
M.H.,	Jan. 10,	1900,	"	"	7495
I. B.,	Feb. 24,	1900,	"	"	7582
C. H.,	Mch. 28,	1900,	"	"	7674
M.W.	Apr. 2,	1900,	"	"	7564

All recovered.

I have frankly and without reservation put before you all my own work and my own thoughts on this subject, and I shall be abundantly rewarded if I succeed in inducing some of those present to express their views and throw some light from their large experiences on what is still one of the darkest chapters in surgery.

1414-1418 Eutaw Place.

DISCUSSION.

Dr. Henry C. Coe said that he had met with much disappointment when doing the old operation of skinning out the uterus. He believes the radical operation of the future will be an abdominal hysterectomy, as this is the most scientific cutting operation known to-day. The great difficulty is to decide, at the time of operation, between simple inflammatory tissue, and that the seat of malignant degeneration. Dr. Byrne's method of treatment by the application of the electrocautery seemed thoroughly rational, and more than this, is supported by a series of brilliant results achieved by Dr. Byrne himself. Regarding the mode of extension, he does not feel sure that cancer of the uterus always extends by continuity. For example, when the radical removal of a small circumscribed malignant adenoma by abdominal hysterectomy is quickly followed by recurrence in the scar, the explanation, on that basis, is difficult.

Dr. Egbert H. Grandin spoke of his personal experience with cancer of the uterus. Although that with the diseases of women has been large, he has seen comparatively few cases of carcinoma uteri—only 48. In 30 of these the bladder, rectum and broad ligaments were involved, and he did not feel justified in resorting to a major operation; he is disposed to believe that, in these advanced cases, the less done the better. Of the 48 cases, 18 were suitable for operation. For carcinoma of the body, total hysterectomy has been the operation of election, and was done in 12. He has been able to trace 7 of these, and has found them free from recurrence. The longest time since operation in these is six years. Vaginal hysterectomy was done on 6 patients in whom the portio vaginalis was implicated, and of the 4 he has been able to follow up, only 1 has remained free from recurrence. Vaginal hysterectomy, whether by clamp or ligature, should be rejected in cases of cancer of the uterus, because more thorough work can be done by the abdominal route. The method of the future will probably be a combination of knife and cautery.

Dr. William R. Pryor expressed himself as opposed to the vaginal operation for these cases, nor does he look favorably on Dr. Kelly's method of doing morcellement by the vaginal route in cases of cancer of the cervix. Vaginal hysterectomy is little better than a palliative operation, yet it is attended by a mortality of from 5 to 10 per cent. His preference is for abdominal hysterectomy, and hemostasis by the ligation of the internal iliac arteries.

Dr. P. H. Ingalls, of Hartford, Conn., said that most of the cases coming to him were far advanced. A partial operation, as with the cautery, seems to him to rather aggravate than alleviate the condition. Operations for cancer of the body have done better in his hands than those for cancer of the cervix.

(To be continued.)

CLEFT PALATE.

A NEW URANO-STAPHYLORRHAPHY.

BY ALEXANDER HUGH FERGUSON, M.D.

Professor of Surgery, Chicago Post-Graduate Medical School;
Surgeon-in-Chief, Chicago Hospital.
CHICAGO.

STAPHYLORRHAPHY.

In 1764 a French dentist, named Le Monier, proposed for the first time to close the cleft in the soft palate by paring the edges and stitching them together, which was successfully carried out by the elder Roux of Paris in 1819. In 1820, Warren of Boston, and independently of Roux, brought before the profession a similar but somewhat better operation, which he had successfully performed. So closely do the two resemble each other in principle and technique that it might well be called the Roux-Warren staphylorrhaphy. This operation was followed by the best surgeons of that time, for about a quarter of a century by such men as Stevens of New York, Mettauer of Virginia, Wells of South Carolina, Gibson of Philadelphia, Hossack, the younger Warren, Mütter, and Pancoast in this country. Among the surgeons abroad who performed this operation may be mentioned Graefe, Dieffenbach, Sédillot, Liston, Fergusson and Polloch. Fifty-six years ago Sir William Fergusson of London made the first marked improvement on the simple vivification and suture operation. He recognized that the tension on the ligatures was a great cause of failure, and decided that this tension was due to the contraction of the levator palati, palatopharyngei and palatoglossi muscles. To relieve this tension he divided these on either side. He devised a hoe-shaped knife, with which he severed the levator palati muscles by passing it behind the soft palate and cutting from behind forward. In this connection Fergusson was the first to make careful dissections of cleft palates on cadavers. The excellent results obtained by him were also secured by other surgeons who had followed him. His operation super-

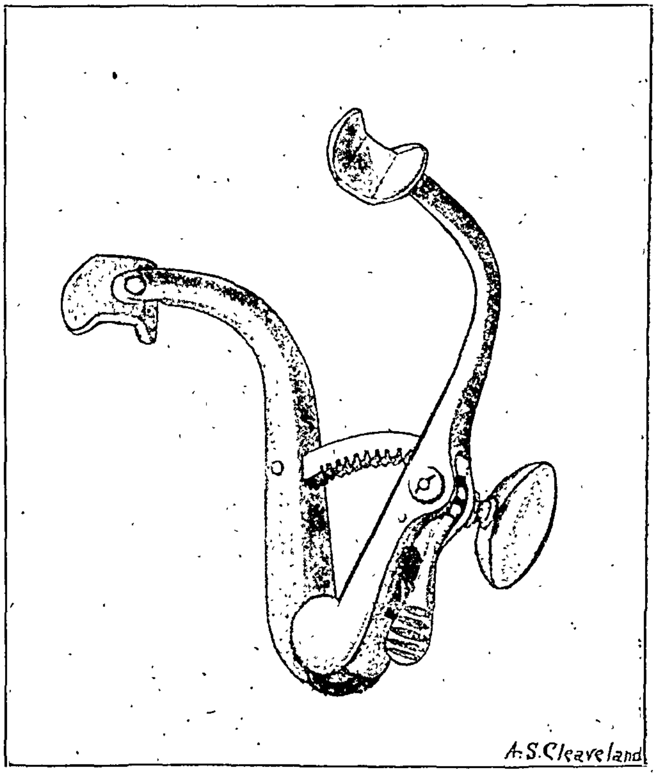


Fig. 1.–Mouth Gag.

seded the Roux-Warren one for several years. The next improvement recorded was in 1860, by Dr. Agnew, of Philadelphia, who pointed out that the tension of the soft palate is in a measure dependent on the contraction of the tensor palati muscles, and these he cut by making an anterior incision close to the hamular process of the sphenoid bone, and thereby obtained marked relaxation. About the same time Dr. Polloch of London carried out a similar procedure. From the ease with which the anterior incision could be made and the fact that it cut the lowermost fibers of the levator palati muscles as well, it soon became a favorite. With the exception of a flap-splitting of the soft palate, carried out by many surgeons, nothing new appeared on this subject until Dr. T. W. Brophy, of Chicago, introduced the application of lead plates to the soft palate, which bear the strain of the sutures, thus preventing muscular contractility and tension. He finds it unnecessary to cut the muscles on either side, and maintains that it is harmful to sever them.

URANOPLASTY.

Staphylorrhaphy was an established procedure in surgery before the closure of the cleft in the hard palate was attempted. Before fifty-seven years ago obdurators were freely used. Dr. J. Mason Warren, of Boston, in 1843, published his method, which consisted in paring away the mucous membrane of each side, raising the flaps of mucous membrane from the bones and suturing them together. Langenbeck effected an improvement by raising the periosteum with the flaps and by making two lateral incisions, one along each alveolar process. In 1873 Sir William Fergusson came on the scene again with his ingenious osteotomy of the hard palate in its entirety, pared the edges of the segments of both hard and soft palate, and brought them together at one sitting, thus completing his urano-staphylorrhaphy. Mason, in 1874, suggested some slight improvements in Fergusson's operation. Garretson of Philadelphia applied to the jaws a horseshoe-shaped clamp, and with it forced the jaws together by means of a screw similar to that of Hainsby. Billroth frequently crushed the hamular processes together, and Wolff utilizes the alveolar processes to close the cleft. Lannelongue constructed a flap, in unilateral cases, from the mucous membrane of the contiguous surface of the nasal septum.

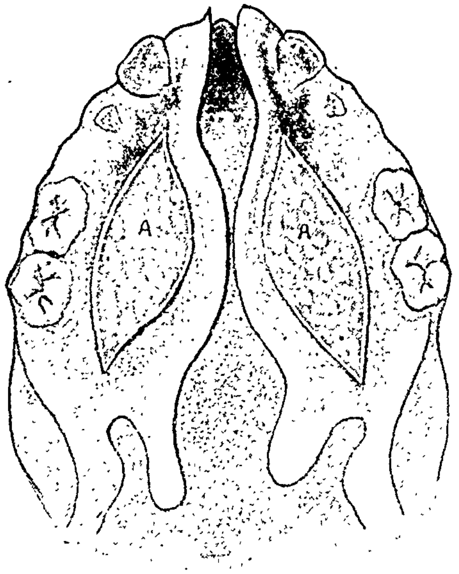


Fig. 2.—Crowding procedure for a wide cleft. A, A, gauze crowding the muco periosteal flaps toward the center.

The Davies-Colley method I have performed a good many times, and like it very much. The cleft is bridged across by means of two flaps. One flap is raised laterally, its outer border being free, while it is left attached at the margin of the cleft. It is then turned upward into the cleft, its mucous surface looking toward the nasal cavity. The flap on the other side is raised like a tongue, its anterior end being free, and is brought across to the opposite side underneath the first flap, raw surface to raw surface, and there fastened with a few sutures. It is an excellent plastic operation.

Brophy's Method (*Park's Surgery*).—This consists in forcing the two superior maxillæ together with stout silver wire fastened to a lead plate, one placed on the outside of each alveolar process. The approximation is effected by twisting the wire over one of the lead plates. The usual vivification of the segments is made, and sutures applied in the ordinary manner. In infants this operation is feasible. Its author claims but little shock, and excellent results. C. B. Porter, when patients have teeth, uses a vulcanite plate in the mouth to protect the soft palate (Warren-Gould's Surgery, Vol. ii, p. 26). Fillebrown makes an incision along the alveolar processes, raises two muco-periosteal flaps, turns them toward the center of the cleft, and there fastens them together with mattress sutures of silver wire, the edges being vivified and sutured with fine silk.

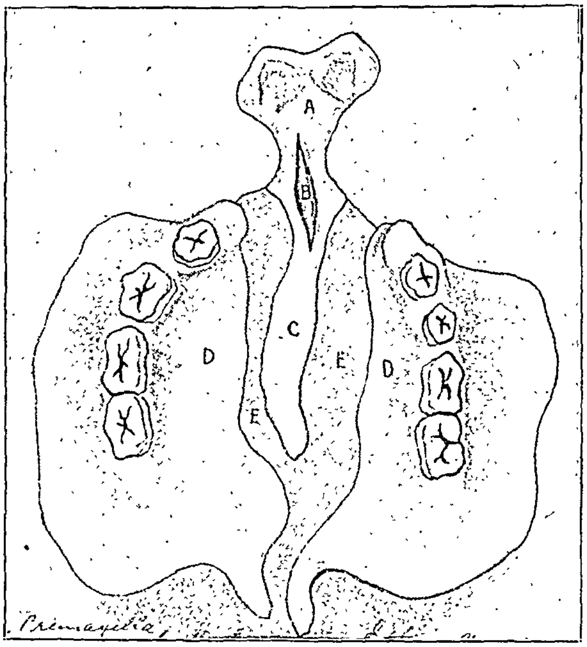


Fig. 3.—Os incisivum. A, premaxilla; b, incision to the bone; d, d, segments; e, e, clefts; c, ethmo-vomerine septum.

Instruments.—The only new instrument I wish to present is a mouth-gag (Fig. I), which I devised and find suitable for all cases. It is small, strong, opens widely, is easily inserted into the mouth, quickly closes, does not strike against the shoulder and lies close to the cheek.

Preparation of Patient.—Adenoids, enlarged tonsils, nasal catarrh, bronchitis, malnutrition, etc., should be treated first. The child should be in the best attainable condition locally and constitutionally before an operation is advised. The day before the operation a dose of castor-oil and a few doses of strychnia should be administered. Irritating the mouth with antiseptic lotions for several days previously is contraindicated.

Age.—In my opinion, all operative procedures on harelip and cleft palate should be completed before the child begins to talk. The earlier the congenital deformity of the palate is rectified, the less defective will be the speech. In infants a few weeks old the mouth is small, the tissues are friable, and there is a tendency for the flaps to slough. Should the cleft be wider than half an inch, the complete closure of it is not undertaken at the first sitting, but one or more crowding operations can be done to lessen it. (Fig. II.) In this case Langenbeck incisions are made, and iodoform gauze firmly packed into the wounds and beneath the muco-periosteal flaps in such a manner as to crowd them toward the center until they touch. When this is properly done the gauze will remain in place for a week or more. It is not removed until it begins to loosen, after which a second packing may be inserted, but usually this is not necessary, for the new granulation tissue is sufficient to hold the soft structures in their altered positions. Three or four weeks should now elapse before operating again. The palate bones are allowed to become covered over with firm fibrous-tissue segments. The crowding operation is most suitable in a class of cases otherwise very difficult to treat, that is, when the segments are horizontal, and the roof is like a Norman rather than a Gothic arch. The flaps in this class of cases are shorter, and by the older methods great traction is employed to bring the pared edges in apposition, hence the frequent cause of failure. When the bony edge of each segment is not well covered by mucous membrane, even though the cleft is narrow, a crowding operation is done as preparatory to the final closure of the cleft in order to obtain flaps sufficiently thick and well nourished to insure success. The more vertical the slope of the palatal segments, the more favorable the case is for operation by old methods.

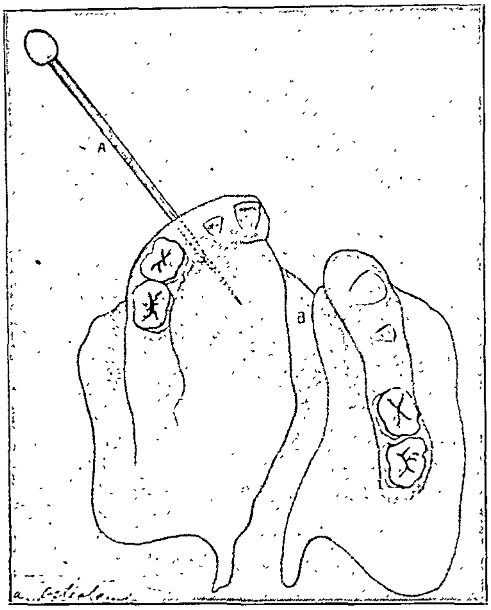


Fig. 4.—Supra-maxillary osteotomy. A, osteotome; b, cleft on one side.

Os Incisivum and Harelip.—The os incisivum, also called the premaxilla and intermaxilla, protrudes in the center in double harelip, and in single it often protrudes to one side, where it is attached, thus raising the nostril on that side far above the level of its fellow. This deformity has been dealt with in various ways. When met with in infants it is my practice to deal with it before operating on the cleft palate, but in older cases nothing is gained thereby, and then I repair the palate first. When possible, the intermaxillary bone is preserved. A V-shaped section is removed from the vomer subperiosteally (Fig. III), through a longitudinal incision, the bone nicely fitted in between the superior maxillæ, and held there by means of a strong silver wire, taking care to pare off the edges on each side so as to obtain bony union if possible. If, however, the harelip operation is done early, it may not be necessary to perform any operation on the vomer, for in some cases it will be found that the os incisivum has receded to nearly its normal position. When the deformity is one-sided, it is easier to lower one nostril than to raise the other. This is done by making a supramaxillary osteotomy, as represented in Fig. IV. Here, too, when the harelip is closed in the infant, the deformity is greatly improved and the osteotomy may be obviated. In the development of the child the union of these bones naturally takes place from before backward, so that by repairing the harelip and wait-

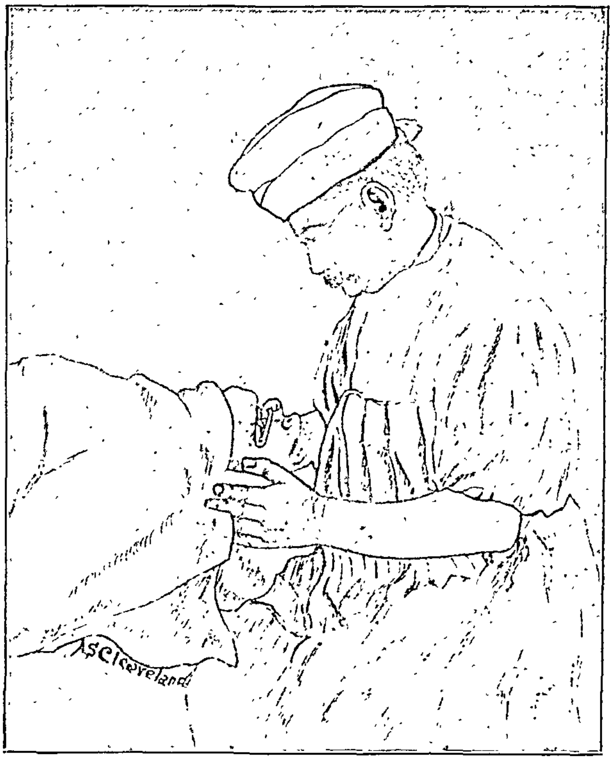


Fig. 5.—Position of surgeon and patient.

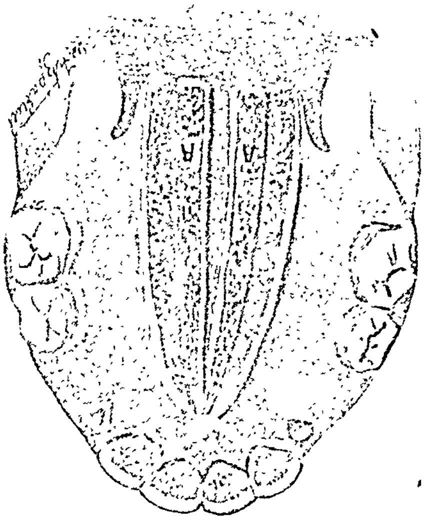


Fig. 6.—First step.—A, A, flaps hinged by the mucus membrane on the nasal aspect.

ing a few months the alveolar cleft is very much lessened.

Ethmovomerine Septum.—The ethmovomerine septum is frequently very deficient or entirely absent. When present it materially facilitates the execution of plastic work in the roof of the mouth, by utilizing its mucous membrane.

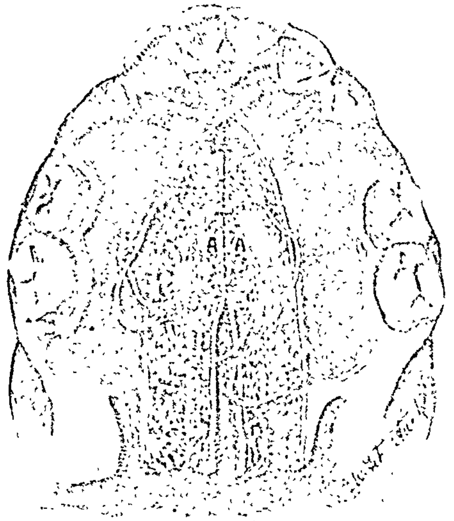


Fig. 7.—Second step.—A, A, flaps coapted by three sutures and fourth one being inserted.

A NEW URANO-STAPHYLORRHAPHY.

The operation which I now wish to describe has been carefully studied and practically developed. It was done on *fifty-three patients, extending over a period of eleven years.* In 1889 I successfully performed it on three sisters. In one the defect extended through the soft palate alone, and in the other two the hard palate was involved, but not the alveolar process. Since then I have managed to prepare my patients so that finally in nearly all of them I could perform my operation, resorting to the crowding operation to this end.

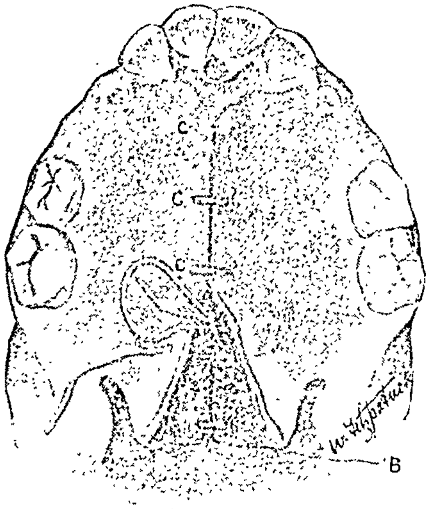


Fig. 8.—Third step.—a, a, flaps inserted into nostril; B, last stitch of first row: C, C, C, second row of sutures being inserted.

Wrap the child in a sterile sheet with its arms extended along its sides; fasten a towel wrung out of a bichlorid solution around the head, or put on a rubber cap; place it on a table with a headpiece that can be raised or lowered; administer chloroform drop by drop; mop its face, mouth and throat with equal parts of alcohol and water; with a 4 per cent. cocain solution on cotton, touch the palate and pharynx; if secretion is profuse, give a hypodermic of atropia, the dose to suit the age of the patient; insert the mouth-gag; sit at the end of the operating-table, with the patient's head well thrown back (Fig. V), and you are ready for work.

The anesthetizer has a difficult task to keep the patient well under the influence of the chloroform, and also allow the surgeon sufficient time to work. It necessitates a wide range of the degree of narcosis, thus coming to and going under alternately, but this fluctuation in the administration of the chloroform is much safer than keeping the patient constantly in a state of surgical anesthesia by spraying the chloroform through a nostril.

OPERATION.

1. *Making the Flaps.*—With a slender, slightly curved, narrow-bladed knife, cut through the mucous membrane of the mouth about one-sixteenth inch from the edge of each segment, and divide all the soft structures to the mucous membrane on the nasal aspect of the palate, but not through it. (Fig. VI.)

2. *First Row of Sutures.*—With a small, round, fully curved needle, not larger than one-half inch between the eye and the point, held in a suitable needle-holder, and threaded with fine silk, closely insert interrupted sutures by passing the needle through the free borders of the flaps from the mucous surface to the raw, and from the raw to the mucous surface, and tie them as you proceed from before backward, all the knots being situated on the nasal side. (Fig. VII.)

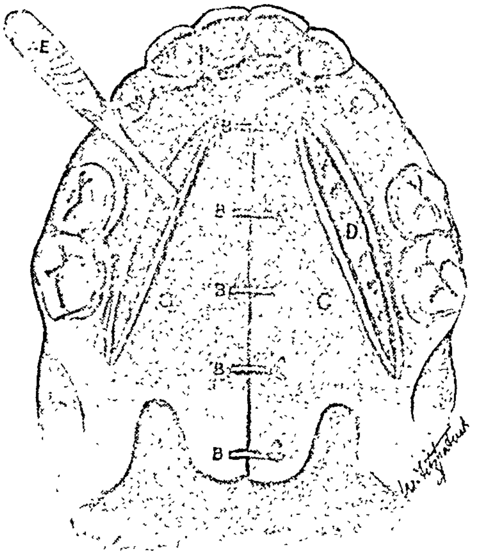


Fig. 9. Fourth step—B, B, B, B, B, etc., second row of sutures tied; C, C, muco periosteal flaps; D, gauze packing; E, periosteal elevator; (a), the flaps and first row of sutures are no longer to be seen.

3. *Second Row of Sutures.*—Take the same needle and needle-holder and complete a row of interrupted stitches of horsehair on the buccal surface of the palate from the tip of the uvula forward, and tie them where apposition is possible without tension. The soft structures of the hard palate can not usually be brought together until the next step of the operation is taken. (Fig. VIII.)

4. *Muco-Periosteal Flaps.*—Place the forefinger of the left hand on the hamular process; take a short, strong, slightly curved, narrow-bladed knife, and make a curvilinear incision on one side, beginning just behind the hamular process, cutting down to the bone and extending forward along the alveolar process, as far as desired; prevent hemorrhage by pressure with the finger and gauze; rapidly raise the muco-periosteal flap, with a strong periosteal elevator, from the segments of the hard palate, and immediately [illegible] firmly

with iodoform gauze. Repeat this performance on the opposite side, and tie the horsehair stitches not already secured. The soft structures of the hard and soft palate are beautifully held in apposition without tension on the stitches. (Fig. IX.)

In packing the iodoform gauze in the wounds, fixation points are obtained by forcing some of it into the bone, also between the teeth and under the mucous membrane. If this is properly carried out, the gauze will remain in place for a week, and sometimes longer. It is removed when it becomes loosened, by which time it has generally fulfilled its usefulness. A second and occasionally a third packing may have to be inserted.

It will be observed that this is not a flap-splitting but a flap-formation operation, the flaps carrying with them two narrow strips of the firm, strong, buccal mucous membrane of the palate, which holds sutures securely, and when they are turned upward and held in coaptation by means of the first row of sutures they form an ideal protecting roof to the raw surfaces beneath them, and afford twice the width of denuded tissues for apposition, and the nasal mucopurulent discharge is shed off to either side. (Fig. X.)

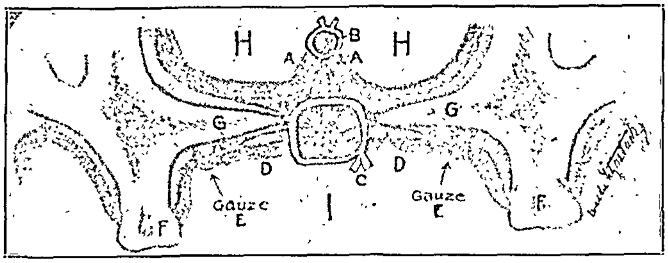


Fig. 10.—Supposed transverse section when operation is finished, A, A, flaps made and turned into nostril; B, first row of sutures; C, second row of sutures; D, muco-periosteal flaps coapted by C; E, E, gauze; F, Garth; G, Segments of bone (palate); H, H, nasal cavities; I, mouth.

After-Treatment.—Every two or three hours the mouth is to be cleansed with a feeble antiseptic solution, such as boric acid, etc. The child readily takes to whisky and water, which is given after taking nourishment, to wash the liquid food off the area operated on. Nutrient enemata are to be administered if deemed necessary, and the stitches removed not earlier than the twelfth day. If the patient cries much, we should keep it quiet with an opiate. A special nurse, experienced in caring for cases of this nature, should be employed.

Cases Suitable for the Operation.—1. The cleft in the hard palate must not be wider than half an inch, but if it is, a preparatory crowding operation is done first. 2. The mucous membrane covering the inner edge of each bony segment should be thick and well nourished; if not, the crowding operation is resorted to primarily. 3. It is suitable for all clefts in the soft palate.

Commendable Features.—1. The results are vastly better than I have been able to obtain by any other method. I have had only one primary failure. 2. No tissue is removed. 3. Very broad raw surfaces are coapted. 4. The danger from sepsis is minimized by turning the flaps upward, as described.

Disadvantage.—It is more difficult to perform.

One of the features of the Paris daily, the *Figaro*, is a column each week devoted to a summary of the leading articles in the principal medical journals. It is written over a pseudonym by M. de Fleury, a well-known physician and contributor to medical literature, and presents, in popular style, the latest medical achievements.

A CASE OF HYSTERICAL HIP-JOINT.

BY JOHN LINCOLN PORTER, M.D.

Instructor of Orthopedic Surgery, College of Physicians and Surgeons, CHICAGO.

Miss E. H., a schoolgirl, 11 years old, came under observation Jan. 24, 1898, with the following history: She had had measles, chicken-pox and whooping-cough in childhood, and scarlet fever three years before I saw her. After this she had severe headaches, pain in the upper dorsal region and "trouble with her stomach." The gastric disturbance consisted of attacks or crises, occurring at quite regular intervals of about a month, with headache, eructations, sometimes vomiting, and pain of an intermittent character in the abdomen; and with this was extreme nervousness amounting at times to nervous storms. These attacks lasted for two or three days, and rapidly passed off, leaving the patient in good health. She had never menstruated. In September, 1897, she began to complain of pain in the right hip, and these pains recurred, with intervals of perfect comfort, for six months; then a slight limp developed, which had been gradually getting worse, though she had been up and about as usual all the time.

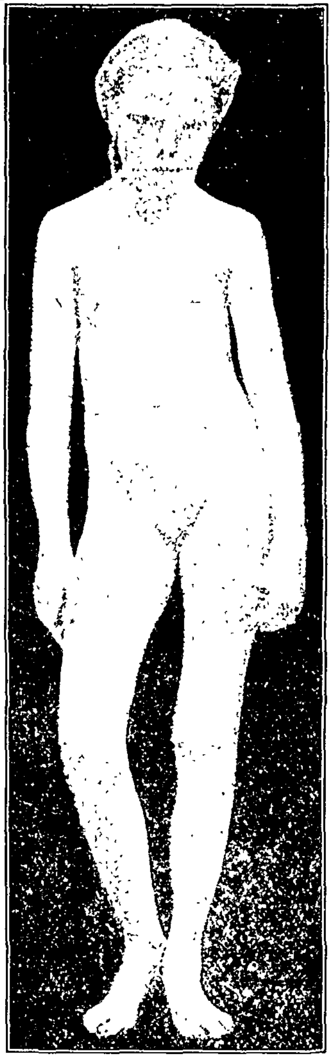


Figure 1.

Family History: There was no history of tuberculosis, syphilis or insanity in either branch of the family as far back as, and including, the grandparents. Both parents were living, also five other children, all of whom were in apparent good health. The mother and her four sisters were all of very nervous temperament and subject to severe headaches.

Condition on Examination.—The patient was a red-haired, blond girl of fairly good development for a girl of 11 years, and apparently anemic. She had large, full eyes, with a restless expression, was alert and quick-motioned, looked at every one and all approaches with suspicion, and clung to her mother in a timid manner. She would not talk, but answered direct questions with a shake or nod of her head. Her standing position and gait at once attracted attention (Figs. 1 and 2), for she stood with the right thigh flexed and rotated outward, and only the toes touching the floor. In walking the same position was maintained, the weight being carried on the toes, *but the flexion increased each time the weight was borne by the right leg.* On inspection, the affected hip and leg seemed perfectly normal, there being no swelling. The length of the two legs was the same, *but the circumference of the right thigh was one-half inch greater than that of the left one.* The latter was easily flexed, rotated and put through the normal motions, but as soon as any motion was attempted in the affected leg a resistance was felt. This resistance was vibratory in character and corresponded exactly to the amount of force exerted by the examiner; for if the leg was forcibly flexed and suddenly released it assumed extension without any evidence of pain. Fig. 3 shows the amount of flexion secured after repeated examinations, through coaxing the patient to help and using a little force. If the forcible flexion was continued until all resistance was overcome, the thigh went up into normal flexion on the trunk and could be rotated freely. Though she covered her face with her arms and cried a little, she did not shed tears or give indications of pain.

Dr. Ridlon and myself have forcibly flexed the thigh on the pelvis several times, and if flexion was maintained until she found that resistance was useless, it ceased. *No acute symptoms whatever followed the forcible manipulations.* Fig. 4 shows the affected leg completely extended in Thomas-test position. The foregoing examinations, together with the absence of any objective indication of intra- or para-articular disease, such as swelling, thickening of the tissues or local elevation of temperature, gave the findings on which a diagnosis of hysterical hip-joint was made.

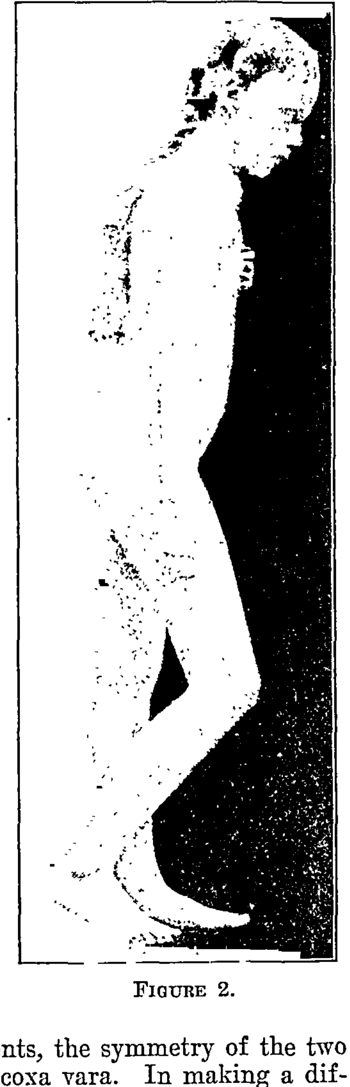


FIGURE 2.

In discussing the differentiation and the later developments that proved the diagnosis, I shall consider only tubercular hip disease and hysterical hip. The chronic nature of the case, persisting for more than a year, with no history of injury, or of any acute inflammatory symptoms, will exclude traumatism or acute infectious arthritis. The measurements, the symmetry of the two hips and the gait exclude coxa vara. In making a differential diagnosis we must consider chiefly the etiology, symptomatology and, in certain cases, the result of treatment. The symptoms have been brought out in the foregoing examination, and as to etiology, the absence of any tubercular predisposition, inherited or acquired, such as is found in a large percentage of tubercular joint cases, and also the lack of any traumatism, must be noted. But on the other hand, she is a young girl of marked neurotic temperament, as evinced by her every action; and where there is added to this a family history which is decidedly of this type, we have a combination that more than suggests a strong neuropathic element. I have been unable to make any satisfactory examination for anesthetic areas in her, she would not keep her eyes closed a moment, and when blindfolded, the nervous tension and lack of control was so great that she was twisting and writhing about continually, and no definite information could be obtained, but her whole behavior was such that this element was clearly shown. In a tubercular joint where the disease has not progressed far enough to produce any fulness, thickening, or other objective signs about the joint, some passive motion is usually possible and often quite free in some direction, and the resistance which is encountered is a muscular rigidity, that is peculiar and is felt suddenly when the limit of painless motion is reached, but here there is no true rigidity, only a resistance of a vibratory character, to all passive motions, that corresponds in power exactly to the force exerted by the examiner. In true hip disease the limp often appears before any pain is felt, while here the pain, of an intermittent type, was noticed six months before the limp. Then, too, the limp in early hip disease is due to incomplete extension of the thigh on the pelvis as the body is carried forward, and the patient walks on the sole of the foot; while in this case, the patient stands with the leg flexed and abducted with only the toes on the floor, and limps because the leg is shortened by the flexion. Furthermore, I believe no hip disease ever progresses to a flexion deformity of 40 degrees without some abnormality being evident about the joint. When asked if she had any pain, she nodded and put her hand on the anterior outer surface of the thigh and calf, the very places where muscular fatigue would be felt from constantly maintaining the flexed position and constrained gait. In 90 per cent. of cases of early hip disease the pain is either in the joint or referred to the inner surface of the knee. Firm pressure over the trochanter, driving the head of the femur into the acetabulum, produced no pain in this case, as it usually does in hip disease.

Atrophy of the thigh and calf muscles, which is *always* an early accompaniment of hip disease, was not only lacking, but, as noticed above, the circumference of the affected thigh was one-half inch greater than that of the other. This was confirmed by measurements made by others at different times.

The above differences would be sufficient to exclude hip disease, but out of curiosity I tried the following trick maneuvers: with the patient standing, I asked her to flex the affected thigh so as to lift the toes off the floor; she made a few feeble attempts, lifted the knee an inch or so, and stopped. Then I asked her to sit on the table, and she did so with the thighs flexed to a right angle without any apparent discomfort, and perfectly unconscious of the significance of the change of position. Again, with her lying supine on the table, and maintaining the constant slight flexion of the thigh, I made an effort to slowly increase the flexion, asking her to help by bringing the leg up, but she resisted and whimpered and said she could not. I at once asked her to sit up, and she did so easily, with her legs straight and before her, thus producing a voluntary flexion of nearly 100 degrees. Then I put my pencil just beyond her heel and asked her to pick it up, and she did so quickly and easily, thus bringing the thigh into complete flexion against the chest.

Another incident shows the inconsistency of these cases. Convinced that the attitude was not due to true joint disease, I tried in every way to get the patient to put the entire sole of the foot on the floor when walking, thinking that the additional comfort thus obtained would gradually result in abolishing the flexion at the thigh, but although motion at the ankle-joint was perfectly free when she was sitting or lying down, she could not be induced to flex the ankle enough to bring the heel down on the floor when standing. Out of curiosity, I put a plaster cast on the leg from ankle to groin, at the same time correcting the flexion at the knee, knowing that with the latter extended she would either have to extend the thigh normally or flex the foot, as she could not walk on the tips of her toes with the thigh flexed. The cast was applied while she was lying on the table, and she took an active interest in the proceeding, not knowing why it was done. When she was allowed to get off the table she stood momentarily on the entire sole of her foot, and her surprise, when she could not bend the knee, was almost ludicrous. She said she could not walk, but when told that she would have to wear the cast home, finally left the room, pushing the stiffened leg before her with the toes kept persistently on the floor and the ankle rigid. I realized that she would probably discover that by tilting the pelvis and straightening the thigh she could walk on her toes; and when she came back a week later that was the attitude, except that the flexion at the thigh was not entirely abolished, and the foot was inverted, making her walk on the outside of the foot and toes. She would not voluntarily correct the position of the foot, and attempts to do so passively elicited the same kind of resistance that had been found at the hip. Later she was noticed standing on the sole of the foot, her attention being diverted to something else. During the next week she passed through one of her gastrointestinal attacks, and, when she returned to me again, the foot and leg were still held in the same position. As the cast was somewhat broken, I removed it, and the original flexion at the hip and knee immediately reappeared, and, just as quickly, the rigidity and inversion at the ankle disappeared.

As a final test in my examination of the patient, I took occasion to see her when she was asleep. In a diseased joint, the muscular rigidity and spasm persist during sleep and are only abolished by deep anesthesia, but when I reached her bedside she was lying on her side, soundly asleep, with both knees drawn up to perhaps 80 or 90 degrees. While I was estimating the amount of flexion, she turned on her face, and straightened both legs out into complete extension. Her mother then turned her on her back, and I began making passive motion with the affected leg, finding rotation free. Here she woke up and, seeing me standing by the bed, hid her face in the pillow and went through all sorts of restless movements, drawing her knes nearly up to her chin, and then extending the legs out to their fullest extent, manifesting no difference whatever between the two extremities. I did not see her again for several months; and when I did, December, 1898, some flexion and limp still persisted, but in April, 1899, her mother brought her to me to show how perfectly she had recovered; then gait and position were normal, and about the leg or hip there was no indication of any previous trouble whatever. Her mother remarked that she had taken nothing but the medicine I had first prescribed, which was a bitter tonic—I think tinctura nux vomicæ and tinuctura cinchona comp.—that I had given the first time I saw her, with the positive assurance that she would get well.

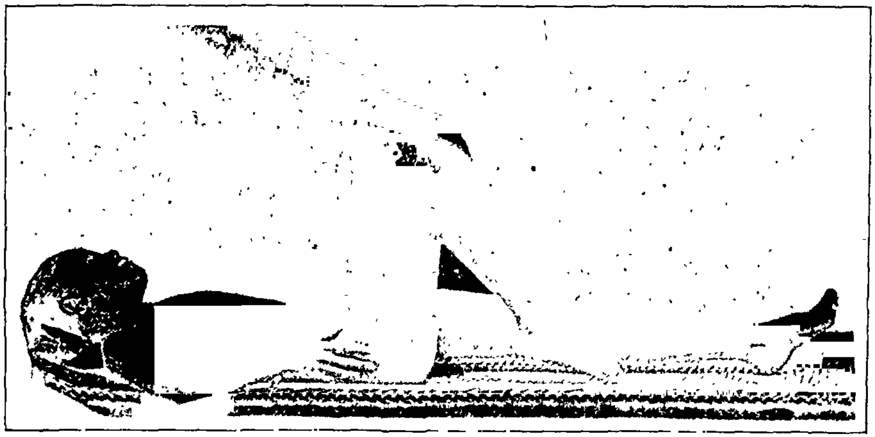


Figure 3.

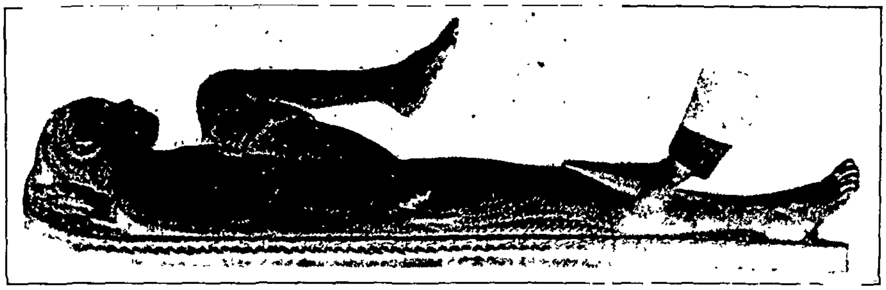


Figure 4.

EUSTACHIAN CATHETERIZATION.*

BY STEPHEN OLIN RICHEY, M.D.

WASHINGTON, D.C.

To quote Politzer, "Most emphatically, it frequently happens that catheterism of the tube, as a diagnostic and therapeutic agent; can not be replaced by any other method." Gruber calls it "an indispensable aid to both the diagnosis and treatment of many aural affections." In agreement with these veteran otologists, I think, of the many methods of reaching and influencing diseases of the middle ear, which form the vast majority of those for which the aurist is consulted, that no one is so important as, or has the precision and efficiency of, the catheter. This is so true, though not generally accepted, that I venture to suggest that no man should claim to do the best character of aural work unless he possesses skill and dexterity in its use; the skill to enter the Eustachian orifice with reasonable promptness, fully appreciating the effect he is producing with and through it on the middle ear and the contiguous tissues; the dexterity to do this without harm and with comparative freedom from pain, as the performance appears formidable to the patient, and lacks no element of an operation save the destruction of tissue.

In proportion as it is the more difficult to the surgeon than the Politzer and Vansalvan methods of *inflation,* is it the more precise, conservative and effective. The Politzer and Vansalvan methods, like the use of Eustachian bougies, have always seemed to me a kind of veterinary surgery; unscientific, and worthy only of indolence and incompetency. They are replete with possibilities of unavoidable mischief, though Politzerizing in modified form is justifiable with some children, in some conditions; but its explosive effects are alarming even to adults. The Vansalvan method can fortunately rarely be practiced by children, and should never be a resort, except in the presence of the surgeon, and while he is removing secretion from the middle ear through a perforated drum membrane.

In neither method can the effect be addressed to one ear alone; each method selects the ear least affected, and air with unmeasured force passes in the direction of least resistance. The effect of each is chiefly mechanical, exerting no therapeutic influence beyond temporarily overcoming a tubal stenosis, and proportionately temporarily relieving local venous stasis, *if the air does pass through the tube.*

That the force of Politzerization is often unknown is illustrated by the experience of an aurist, related by him to me some years ago. In his attempt, by this means, to free a stenosed tube, the drum membrane of the unaffected ear was ruptured.

The frequent repetition of either method in chronic non-suppurative inflammation of the middle ear often results in a flapping drum membrane, with vertigo when air enters the cavity during the act of blowing the nose, and sometimes with that of swallowing.

In cases of acute middle-ear inflammation these means may clear, the tube of secretions trying to find their way into the pharynx, but only by driving them in the direction from which they have come; fortunate if they stop in the cavity, though the risk is great that, loaded with germs, they may be propelled into the antrum to cause disturbance there which might have been avoided. Neither method contributes anything to antisepsis of such secretion, thus started on its way to the mastoid spaces, into which other applications of the same kind may drive them, and thus excite a mastoiditis. It would seem that this must happen more frequently than formerly, judged by the increasing number of mastoid trephinations deemed necessary, and for which it is not pleasant to think the aurist may in any degree be responsible.

In reading the reports of cases of mastoid involvement as a sequel to otitis media acuta, I have received the impression that often the extension of the malady would not have occurred except for the mediation of this form of inflation. Mastoid complication from acute middle inflammation, even when symptoms of invasion of the antrum existed, has occurred but once in my work; and I have not had a mastoid trouble from chronic suppuration of the middle ear, unless it existed when the case came under my care. My fortune in this respect has been so great that it is not easy to find a reason for such experience unless in the methods of treatment adopted. It varies so much from that of most writers, that I do not find occasion to perform the exsections and trephinations so common now.

I *always* use the catheter in affections of the middle ear, acute or chronic, and have never seen anything but good result from it, and think the danger of introducing germs from the pharynx into the middle ear by means of the catheter, properly used, to be purely visionary. This claim has been made, but I have never seen an instance of it, and do not fear it. It might be done, but with proper precaution it is avoided. The catheter must be sterilized before introduction, and an astringent and antiseptic solution must be blown gently through it into the tube, not necessarily into the cavity the first time; indeed, generally better not. The solution dilutes the secretion it reaches, favoring its more ready escape; it more or less destroys the germs; its astringency increases the caliber of the tube, acting antiphlogistically. At the next sitting the solution may be carried farther up the tube, or into the cavity. If the drum membrane is perforated the solution may be permitted to reach the cavity at the first interview, and it will act in an equally benevolent way there. The dilution and antisepsis of the secretions, *gently done,* is the important feature.

Another purpose served by the catheter, and a wise one, is the *withdrawal* of the secretion from the tube by suction. I have, at times, removed the catheter half-full, with less once or twice more; relieving tension and pain, thus making space and more safety for the solution to follow, and sometimes aborting acute trouble, and avoiding paracentesis.

However, it is the extension of the malady beyond the middle ear which is most important, and my experience coincides with that of Dr. Burnett, of Philadelphia, who says that he "has never seen a case of acute mastoiditis following acute otitis media in which he has had charge of the treatment from the beginning." Such cases may be due either to neglect, or overtreatment; in my judgment chiefly to the practice of the Politzer method.

A number of times I have heard comments by foreign otologists upon the seeming independence of the Eustachian catheter in this country, especially in chronic suppuration.

In stenosis of the Eustachian tube, not due to adhesion, patulency of the tube has been secured by means of the catheter, in my experience, without exception, and naturally a resort to bougies seems bungling. Think of a bougie retained in this region for half an hour! Yet this has been advised.

---

*Read before the Medical Society of the District of Columbia, March 14, 1890.

The catheters I use are made of malleable silver, to facilitate ready adjustment of the curve of the tip to the variation in size of different nares and pharyngeal spaces. A different adjustment is often necessary for the two sides of the same person. The best sizes of the catheters are given in the text-books.

The substitution of a local anesthesia soft rubber bulb for the unwieldy Politzer bag, by requiring but one hand for its manipulation, is an advantage. By the resistance of the bulb to the hand some appreciation of the force being used and of the character of the obstruction may be gained, and the volume of air carried in may be approximated, as is not possible with a large bag.

Clamp and headband are worse than useless, like much other awkward trumpery that has been devised for use in this region. The "modified" catheter is either an attempt to compensate for the possession of thumbs for fingers, or, like the modified pessary, it is designed to record a claim to cheap glory.

ABDOMINAL SURGERY.

FIVE INTERESTING CASES: PANCREATIC CYST; HEPATIC CALCULI; FECAL FISTULAE; COMBINED APPENDECTOMY AND NEPHRORRHAPHY.

BY FLOYD WILLCOX McRAE, M.D.
ATLANTA, GA.

Case 1.—W. R. Britt, Columbus, Ga., white, male, aged 60 years, farmer, married, was admitted July 17, 1899. His father died, he believes, of some growth in the abdomen. His mother, brothers and sisters are healthy. Sixteen years before, while in Florida, he had chills and fever for a year. About thirty years before, he was taken with sudden, excruciating pain in left lumbar and iliac regions, which persisted three or four hours, i. e., till after the application of mustard plaster. He passed bloody urine at that time. He had similar attacks four to five times a year for the next twenty years, diagnosed renal calculi.

When having an attack he has a constant desire to urinate, but voids only very small amounts. The left side always remained tender. Fifteen or twenty years ago, stepping on the hub of a wagon wheel, he struck his left side on the rim of the wheel, causing severe pain for about an hour. For the last twenty years, on considerable exertion and getting warm, as in ploughing, he has become completely exhausted, weak and nervous. During the past few years he has had a burning sensation in the upper part of the abdomen, and could not eat as much as formerly because of a sensation of fulness; no vomiting, but occasional pyrosis. No abnormal appetite nor dislike for food was present, but he has always had a tendency to constipation, and for the past year or two this has been worse, the bowels seldom moving without a cathartic. There has been no diarrhea since 1860.

When in the hospital, two years ago, he became aware that something was wrong in his abdomen, by the sensation of a moving and contraction of the bowels. Two months before admission, he noticed a mass about the size of his hand, just below the right ribs, and about the median line, above the umbilicus. He had no pain, but an uneasy feeling in the abdomen, and lost seven to eight pounds in the last four or five weeks.

After some medication, six weeks before, he had a good appetite, but food seemed to do him little good. There was a large, hard mass in the left middle abdominal region, firmly fixed, of a slight cystic feel. Diagnosis was in doubt, but malignant disease suspected, and an unfavorable prognosis given.

An exploratory incision was decided on and done the day after admission, July 18, at 9 a.m. A large cyst of the pancreas was revealed on going into the abdomen, the trocar introduced and about three pints of oily, straw-colored fluid obtained. The cyst was firmly adherent to the concavity of the spleen, which latter was slightly enlarged and displaced downward, and formed the left boundary of the tumor, thus greatly enhancing the difficulty of diagnosis. The upper and lower ends of the incision were closed with through-and-through silkworm gut sutures, and peritoneum sutured to the skin for the middle 2½ inches of incision, with fine silk. The cyst was then opened, the edges of the opening sutured to the abdominal wound with fine silk, and a large drainage-tube—rubber—introduced, containing gauze wick; this was held in place by silkworm gut sutures. Absorbent dressing was then applied and the patient put to bed.

Strychnia, gr. 1/30 every three hours, was given, and no trouble was had with nourishment, which was gradually increased from that time on, giving chicken broth, albumin, panopepton and buttermilk, one or the other, every three hours. On the second day his temperature reached 101 F., and on the three succeeding days it ranged from normal to 99.6, and 100 once or twice daily; thereafter it was normal. He was given a light diet on the sixth day. The dressings were changed as necessitated by the amount of discharge, at first twice daily, later daily, and so on.

His recovery was rapid and uneventful, and he was discharged "improved," on August 14.

Case 2.—Mrs. C., aged 34, gave a negative family history. She had been healthy, except dyspeptic for several years, and subject to attacks of colic, or what she supposed to be acute indigestion. About six weeks prior to operation, she had a severe attack of colic, followed by "bilious fever" (?) for two weeks.

I saw her first in consultation with Dr. G. G. Roy, August 8. Examination revealed a tumor about the size of a fist, occupying the region of the gall-bladder, and extending about two inches below the ribs. There was slight jaundice. The lungs, heart and kidneys were normal. A diagnosis of gall-stone cholecystitis, was made and early operation advised.

Operation, August 9, was under ether. Coming down on the tumor I found what seemed to be an enlarged gall-bladder, but which, on examination, proved to be an enlargement of the liver itself. The growth was very hard and nodular, presenting many of the characteristics of malignancy. Dr. Nicolson, who helped me, and I were in doubt as to just what its character was. Introduction of an aspirating-needle showed that it contained a dark serous fluid, but nothing definite was determined as to its character. I immediately stitched the parietal peritoneum to the surface of the liver, leaving a space as large as a 50-cent piece, uncovered. I then packed the wound with iodoform gauze, closing the two extremities with silkworm gut sutures. The packing was left in three days, when it was removed, leaving the surface of the liver uncovered. I immediately made an opening down to a hard body in the substance of the liver, and, with a curette, removed thirty gall-stones of almost uniform size and shape. A drainage-tube was inserted, and gauze packed around it. August 4th three more stones were removed; the 16th, ten; the 20th, one; the 24th, three; the 26th, two; the 30th, two, and eight have come away since. There is still a discharging sinus, but practically no pain.

The patient has gained flesh rapidly, and weighs fifteen or twenty pounds more than she ever did, and enjoys the very best of health.

Case 3.—D. S. P., white, male, aged 37, a stair-builder, was admitted August 9, 1898. He had been operated on for appendicitis the preceding March and a suppurating sinus remained and afterward developed into a fecal fistula, which discharged very freely, especially when the bowels were loose. This gave him some pain at times. He had indigestion all summer, but had been able to work. The bowels had been moving about twice daily.

Operation, August 12, at 1:50 p. m. The sinus was packed lightly with iodoform gauze, and an elliptical incision then made outside this tract, through the abdominal wall. The surrounding tissues were carefully dissected and separated from the sinus, which was found to enter the cecum at the base of the appendix. The latter was very large and indurated, and surrounded by a mass of inflammatory deposit. This I dissected out down to the base—"near" cecum—removed it, cauterized with carbolic acid and buried the stump in a fold of the gut with sutures of No. 7 silk, four or five tiers of these being put in. The operation was tedious, occupying two hours and fifteen minutes of uninterrupted work. Iodoform gauze wick, surrounded by a fenestrated rubber-tissue drain, was left in and the wound closed with silkworm gut. The drainage was removed and left out next day, the wound being clean. The temperature went up to 102 F. on the 14th, but came promptly down on administration of quinin bisulphate, gr. v, every four hours to seven doses, and remained normal thereafter. Recovery was uneventful, after removal of the sutures on the 19th, and the patient was discharged cured, Oct. 11, 1898.

Case 4.—J. B. S., white, male, aged 37, a dairyman, was admitted May 16, 1899. His health was good until four years prior to admission, when, on catching a falling milk vessel, he had severe pain in the right inguinal region. This grew worse and he had to go to bed. The right leg seemed affected, always feeling better when flexed on the thigh. He was in bed three months at this time, and noticed a "lump" in his right side. About Jan. 23, 1899, the iliac region of his right side began to pain him slightly, but he had no general abdominal tenderness, nor vomiting, though the bowels could not be moved for a week. When gas accumulated in the bowels, the mass inside seemed to get larger. The right leg was still more comfortable when flexed. He was admitted with a mass in the right iliac region to the inner side of the crest extending downward—slight tenderness. The temperature was 102.8 F., the pulse 88, the tongue rough and coated. There was no appetite and some diarrhea.

Operation was performed May 18, at 2 p.m. (Dr. Nicolson). The point of tumor in the right iliac region, which would be tympanitic at times, dull at others, was tympanitic while on the table, before operation. Incision over McBurney's point reached an extensive cavity three inches long by two inches deep, which contained an ounce of creamy pus and a concretion about the size and shape of a partridge egg. The inner wall of the cavity was formed by the outer surface of the cecum, in which was a fimbriated opening admitting the index finger. The appendix was not found. The cavity was sponged clean and the wound closed with silkworm gut sutures, an iodoform gauze drain being left at its middle.

The fecal fistula was dressed daily, and oftener when necessary—sometimes four or five times daily; irrigations at times, then none; packing at times, then none—from the first operation until September 11, when the second was done. The opening in the gut could be easily felt and plainly seen with the light at a proper angle, but it closed very little under all the forms of treatment tried.

A moist gauze (saline) dressing, daily, seemed to exert the best influence over the discharge, amount, odor, absorption, and so on. A cavity holding from two ounces at first down to one-half ounce just before the operation, persisted, the contents of the bowel dropping into it from the opening in the gut and, when the cavity was filled, the dressings becoming saturated. When this cavity was well packed it seemed that the discharge was lessened, probably by pressure on the opening in the bowel.

On September 11, the second operation was performed under chloroform anesthesia by Dr. McRae, Dr. Nicolson assisting. The opening of the old fecal fistula was enlarged—mucous membrane of gut very unhealthy for an area the size of a silver dollar, about the opening in the cecum. Adhesions of the cecum to the abdominal wall were broken up, and the remainder of the appendix—about 1½ inches—also separated from a bed of adhesions. A small portion of cecum at the site of opening and the appendix were resected, and the edges of the gut brought together with a Czerny suture, and *four* or *five* layers of Lembert sutures of No. 7 black silk put in, one layer above the other. Cicatricial edges of the wound were then trimmed off and sutured with silkworm gut. Gauze drainage was put in and moist saline dressing applied. This was changed on the third day (13th), when the wound was clean, no odor; moist saline dressing reapplied.

A thin yellowish fluid oozed from the drainage wound for twelve days, necessitating a daily change of dressings. The cavity held from 1 to 1½ drams of fluid when filled. This closed slowly but steadily, and the patient was discharged, cured, on October 7, twenty-six days after the operation.

Case 5.—Miss L., aged 29, was admitted Oct. 12, 1899. Father died of heart disease, mother of consumption, one brother of rheumatism. The patient was always delicate; subject to cold. She had had very painful menstruation. Tubo-ovarian disease existed for three years and she was in bed five months, prior to removal of the ovaries and tubes, in July, 1895. Floating kidney was found, but nothing done for its relief except directions given as to abdominal support. There was no relief from removal of the tubes and ovaries.

On July 6, 1896, I did a right nephrorrhapy, with complete relief for fourteen months, when she had a fall down a flight of steps, and partially broke the anchorage loose. This fall was followed by subacute appendicitis, and she was in bed for seven weeks. She rested up and after a few months felt as well as before injury, and resumed nursing one year after her fall, without inconvenience until March, 1898, when she had an attack of appendicitis, with high fever, and was confined to bed for two weeks. She never felt well afterward, but was about till September, 1898, when she had a mild recurring appendicitis, more or less pain all the while.

On admission, the heart and lungs were negative, but the urine showed a few hyaline and granular casts. This cleared up under treatment, till at time of operation, October 17, only two casts were found.

Operation was done under e[illegible], th[illegible]al incision along border of rectus for re[illegible]dix. A pendectomy was completed in the usual way, except closure of the abdominal incision: I separated the parietal peritoneum down to the right kidney, which was very readily accomplished. With a full curved Hagedorn needle, three sutures were put in, after incising the perirenal fat. The sutures took a "good bite" of the kidney and were then carried deeply into the muscles and brought out again. They were tied without much difficulty, and held the kidney well in place. Kangaroo tendon was used. Considerable difficulty was experienced in putting in the sutures, but this was finally accomplished in a very satisfactory manner. The abdominal wound was closed in layers and the patient put to bed in excellent condition. In some way the superficial structures were affected—evidently streptococcus infection—and the subsequent fever and prolonged convalescence were due to this cause.

She suffered much pain after operation, morphia being necessary twelve hours after it. Temperature was 101.6 six hours after operation, and the quantity of urine was very small. An enema of normal salt solution was giving on taking her off the table, and the following day alum enemata, followed in two to five hours by saline, were started and kept up daily. Strychnia, gr. 1/30, was given every three hours, and morphia was occasionally necessary. On October 20, diuretin, in 7½-gr. doses, t. i. d., was begun, and 1 gr. of calomel given at bed-time. Lithia water *ad libitum* was started next day, and she was persuaded to drink as much as possible. The quantity of urine steadily increased from day to day, from ten to sixteen ounces after operation to thirty-five to sixty October 28 to 30. No morphia was used after the 23d.

The temperature ran high after operation, going steadily up from day to day until, on the 22d, it reached 103.4. Chloroform was administered and an incision made through a hard mass in the right side over the kidney area, and about three drams of pus and some bloody serum evacuated. This was dressed daily, and temperature declined some, but never reached normal till after an exacerbation on November 8, when it went to 103.6; the high fever here remained only two days, and normal range was reached and held to from November 11.

Case 1 presents several features of especial interest. The history of repeated attacks of renal colic, and the location of the tumor, pointed to hydronephrosis: the general appearance, rapid emaciation, obstipation, age and general characteristics of growth to malignancy. I should have made a positive diagnosis of malignant disease but for the fact that the tumor seemed cystic toward the median line. Dr. Cooper, who saw the patient, made a rather tentative diagnosis of cancer of the stomach. Dr. J. H. McDuffie, the family physician, suspected hydronephrosis. Exploration of the cyst revealed no cause for its development, and the utter impracticability of its complete removal. I have kept up with the case, and while there is still a considerable discharge of pancreatic fluid, the quantity is constantly diminishing. The general condition of the patient is good.

Case 3 puzzled me exceedingly. Quite a number of the stones removed are about the size of large buckshot, highly polished, almost black, and irregularly quadrilateral. They were evidently formed in the gall-bladder, ulcerating through its roof into the liver. The adhesions were such as to make a careful examination of the under surface of the liver impossible.

Cases 3 and 4 illustrated one of the untoward consequences of incomplete operations for appendicitis. No operation for this condition, that consists in simply opening and draining an abscess without complete removal of the appendix, can be considered curative. A large proportion of such patients will require a subsequent operation to effect cure. The method of closure adopted in these two cases is worthy of further trial. In both there were extensive adhesions, great induration and thickening of the cecum. I do not believe any other method, except a complete resection of the cecum, would have proven curative. I shall in future employ the method with much confidence, in this very troublesome class of cases.

Case 5 represents an entirely new procedure, i. e., that of appendectomy and nephrorrhaphy through the same incision. I did not do the operation as I had originally planned to do it. It was my purpose to remove the appendix, separate the peritoneum, incise the perirenal fat, put my sutures in the kidney with a long, straight needle on each end of each suture, then have my assistant make a lumbar incision through the skin and superficial fascia. I next intended forcing the needles through the lumbar muscles, and tying the sutures, closing the skin and fascia over these, thus burying them. After getting down to the kidney, however, I felt sure that I could accomplish the same result without making another incision, and finally succeeded in doing so. The infection of the wound that followed was a most unfortunate circumstance. I feel sure this was due to an unguarded act of one of my good friends who is a surgical enthusiast. He came in just as I had finished putting in the renal sutures, and after explaining to him what I was doing, he thoughtlessly put his dirty hands on the operating-field. Whether the infection was due to this or some other cause I do not know. I do know, however, that it was only superficial, but very virulent, and showed a tendency to burrow. The operation of appendectomy and nephrorrhaphy is a practicable one.

I am indebted to Dr. Hal Moncrief for the histories of Cases 1, 3, 4 and 5.

ANTITOXIN AND INTUBATION WITH A REPORT OF 100 OPERATIONS.

BY BURT RUSSELL SHURLY, B.S., M.D.
Laryngologist to the Woman's Hospital and Foundlings Home: Junior Attending Physician, Harper Hospital; Lecturer on Physiology, Detroit College of Medicine.
DETROIT, MICH.

The results of progress in scientific therapeutics can be most thoroughly demonstrated in the treatment of laryngeal diphtheria. The uncertain pathology of this disease has assumed a clear and definite position under the light of modern bacteriologic research. Arguments on the nature of the causative microbe are past, and the claims of the Klebs-Loeffler bacillus are established. The question has been decided, and the presence of the Klebs-Loeffler bacillus is demonstrated in primary pseudomembranous laryngitis almost without exception.

A careful investigation of the management of diphtheria patients, and a study of the development of new cases from day to day leads to the conclusion that the great mortality can be reduced one-half by early treatment. The great importance of more care in recognizing the causes and enforcing the means of preventing diphtheria are obvious. The causes of the rise and fall in the number of cases in our city require careful scientific study. Local atmospheric conditions, prevailing winds, seasons of the year, personal hygiene, sunlight, overcrowding houses and schools, conditions of cellars, sewers, unpaved streets, drainage of vaults and ventilation are among the factors. A disease which shows in this city 1009 new cases reported in 1896 with 260 deaths, a mortality of 25.76 per cent, demands the use of every prophylactic measure known to science. Municipal attention in the care and control of smallpox is immediate in the outbreak of any epidemic, but diphtheria with a mortality of 25 to 35 per cent., 90 per cent. of whom are under 9 years of age, receives but passing mention.

The general adoption of a prophylactic dose of antitoxin to every child of croup age, viz.: under 10 years, exposed to diphtheria, is the chief remedy advocated to diminish the mortality. The presence of adenoids and enlarged tonsils would especially indicate the use of this preventive measure.

Intubation and antitoxin are now recognized throughout the world as the best methods of treatment in laryngeal diphtheria. Notwithstanding the efforts of some prominent members of our profession to impair the usefulness of these two life-savers, antitoxin and intubation are here to stay. They no longer need argument in their support. It is only necessary to use them intelligently and the results will speak for themselves. We have no more exact demonstration of the interdependence of medicine and surgery than that shown by statistics of intubation without antitoxin, 70 per cent. mortality; with antitoxin, 30 per cent. mortality.

The marvelous curative influence which antitoxin has in laryngeal diphtheria is now a well-accepted fact. As a specific in primary pseudomembranous invasion of the larynx its claim is well supported. The early use of a full dose is of the greatest importance, and a more general recognition of this fact by the profession and the laity will result in a great diminution in the number of cases of secondary laryngeal invasion, at present 16 per cent., and therefore operative interference will become limited. No case of laryngeal diphtheria should receive less than 1500 units, and children over 2 years should have 2000 units, and an additional dose of 1000 units may be repeated every twelve hours according to symptoms. The more concentrated the serum, the more satisfactory for our use. It would seem that many of the unpleasant effects, such as rash, occurring in 5 to 40 per cent., pain and swelling, were increased with the additional quantity of serum injected.

The reported dangerous effects of antitoxin which made such an impression on the laity have proved to be without foundation. Fatal results are due to the disease, not the antitoxin. The fault lies usually in late administration. Serum showing evidence of general turbidity should not be used. The date of issue from the laboratory is stamped on each package and should be noted, as after six months the antitoxic value diminishes.

Additional medicinal treatment is of great value. The continuous inhalation of alkaline steam acts efficiently in softening laryngeal pseudomembrane, and intubated patients expel secretion more easily when moist and liquefied. The more adherent membranes are not so easily affected. Medicinal vapors from combined solutions of eucalyptus, oil of turpentin and carbolic acid are then more beneficial. Fluids should be given in large quantity, with the same object in view. In younger children who do not expectorate properly, a daily dose of calomel is of great importance. Calomel vaporizations are useful in septic cases, and the bichlorid given every hour in doses of 1/60 grain has many enthusiastic supporters. Iron is useless in the acute stage of the purely laryngeal form. Strychnin and alcohol are given in all cases where a respiratory or cardiac stimulant is needed. Nasal or nasopharyngeal exudates should receive appropriate local treatment.

After the differential diagnosis is made the indications for operation are dependent on many factors which experience only can fully impress upon us. One fatal mistake in judgment in an effort to avoid too early operation will bring one to a full realization of his responsibility. The points for consideration are: 1. Stage of disease. 2. Age of child. 3. Intelligence of parents. 4. Surroundings. 5. Trained nurse. 6. Amount of antitoxin and time when administered. 7. Distance of patient from operator. 8. Amount and character of dyspnea. 9. Complications. Operation in laryngeal diphtheria should not be refused because it is too late. Many can be saved at the last hour, but the mortality rate is necessarily high. Judgment, discrimination and experience show that early surgical interference does the patient no injury. A small frequent pulse, cyanosis, aphonia, marked retraction of chest wall and epigastrium are urgent indications. Mechanical relief is so sure and painless that it seems little short of criminal to allow a child to suffer and struggle for want of it. Where the two methods of surgical interference are possible intubation should always be the primary operation.

The technique of intubation is most minutely described in our various text-books. Particular attention should be paid to the position of the child and the selection of the tube. Ill-fitting tubes injure the larynx. The operation should not be attempted without previous practice on the cadaver. If not skilfully performed the child's life is endangered, or the larynx and surrounding tissue wounded, and the operation brought into serious disrepute. It is remarkable how intubated patients recover with little or no care. Many of these little ones, among the pauper and ignorant classes where this disease thrives, will be found playing around the room on the second day, the tube still in place. Careful directions as to rest, feeding and medication were entirely unheeded.

The Casselberry method of feeding is especially useful for children under 4 years of age, and the catheter method, body horizontal, face down, is more successful with older children. In none of my cases has it been necessary to resort to lavage or nasal feeding. The former argument of difficulty in feeding can be relegated to pre-antitoxin days. Instruction by the attending physician, and the selection of a proper method for each patient is all that is necessary. In many cases practically no medication except antitoxin was given and any tendency to membrane extension was met by an additional dose of serum.

The extraction of the tube is the most difficult part of the operation, and should be performed whenever an intubated child suffers from returning dyspnea. Food or membrane may have obstructed the tube, or the tube may have been swallowed.

The prolonged use of a tube may be required. In four cases reintubation was necessary after extracting the tube at the termination of four days. An additional forty-eight hours was sufficient to permanently relieve two of these patients. The remaining two proved very interesting and illustrate some of the difficulties the operator encounters.

Case 1.—A girl, aged 1 year and 9 months, a patient of Dr. G. H. Sherman, gave the usual history of a descending type of laryng[illegible] cri[illegible] the p[illegible] exudate on the tonsi[illegible] severe and intubation was performed with immediate relief. One thousands units of antitoxin were administered. The tube was removed on the fourth day, dyspnea returning in a few hours, and reinserted six hours after extraction. It was again removed two days later and dyspnea did not return until four days after the second extraction, when intubation was again urgent, a piece of membrane being loosened as the tube was inserted. One thousand five hundred units of antitoxin were given and, although the tube was coughed out twice during the next four days, on extraction the breathing was good and the patient recovered. The conclusions from this case, confirmed by later experience, show that if the tube can not be removed at the end of four days an additional 1500 units of antitoxin should be given. The retained tube was evidently necessary on account of persisting membrane, showing the original dose of 1000 units insufficient for this case. The tube was worn ten days.

Case 2.—A girl, aged 2 years and 9 months, was seen with Dr. Rodd, Feb. 2, 1897. A glance at the child was sufficient to show that the marked cyanosis and comatose condition promised a speedily fatal termination. A three-year tube was quickly prepared and, with only a nervous woman as assistant, and no one to hold the head, an attempt was made to pass the tube, but the faulty position and large size of the tube made two efforts unsuccessful, and it was at once apparent that one more failure was certain to prove fatal. I exchanged the three-year tube for the one-year size, and at this juncture Dr. Rodd arrived. Our next effort was successful and no more inspiring or delightful sight can greet the eyes of the surgeon than this picture of returning life to the asphyxiated child. An hour later the one-year tube was coughed out, and a two-year replaced it. The case progressed favorably but reintubation was necessary on the fourth, sixth, eighth and tenth days. A loose piece of membrane was removed at one of these operations and 1000 units more given. The tube was finally removed on the seventeenth day, twelve intubations having been performed.

A case which illustrates the possibility of saving life when the patients are moribund was seen with Dr. Geo. Bassett, May 25, 1897. A boy, aged 3 years and 5 months, had been ill with diphtheria involving the tonsils, pillars and larynx for some days and no physician in attendance. On entering the room it seemed that death was a question of only a few minutes. There was no radial pulse and the child was completely comatose. It luckily happened that a three-year tube prepared for another patient was ready for use, and as the tissues were completely relaxed it was quickly passed without disturbing the position of the child on the bed, and artificial respiration resorted to. The tube gave perfect relief and the patient was sent to the hospital for treatment, 1500 units of antitoxin having been given. On the fourth day the tube was extracted, but dyspnea returning next day a second operation was performed and 1000 units administered. He coughed out the tube 2½ days later, and was discharged from the hospital fully recovered fifteen days after admission.

From a study of these cases and general observations in the treatment of diphtheria, we can formulate a series of definite conclusions and rules of procedure which apply to all cases of laryngeal diphtheria.

1. Administer antitoxin early without waiting for a bacteriologic diagnosis.
2. Tonsillar exudate attended by a croupy cough or partial aphonia is an indication for a full dose of 1500-2000 units of antitoxin.
3. Antitoxin administered twelve hours or more prior to operative interference will reduce the mortality of intubated cases at least 50 per cent.
4. Immunize all exposed children of croup age.
5. Continuous steam inhalations are of great value in all cases.
6. Early operation is most strongly advocated.

SUMMARY OF ONE HUNDRED CASES.

Number of operations, 100; recoveries, 69; deaths, 31; mortality under 3 years, 49 per cent.; mortality over 3 years, 19 per cent.; complicating measles, 8 cases, 5 deaths.

Age of patients operated on: 1 to 2 years, 16, of whom 9 recovered, 56.25 per cent.; 2 to 3 years, 23, with 11 recoveries, 47 per cent.; 3 to 4 years, 20, of whom 16 recovered, 80 per cent.; 4 to 5 years, 15, of whom 12 recovered, 80 per cent.; 5 to 6 years, 11 cases, with 10 recoveries, 90.9 per cent.; 6 to 8 years, 10, of whom 7 recovered, 70 per cent.; 8 to 12 years, 5, of whom 4 recovered, 80 per cent.; number of doses of antitoxin, 160.

Eighty-five per cent. of the cases occurred on streets that were not paved.

USE OF OPIUM IN INFANCY, SEEN IN ADULT LIFE.*

BY T. D. CROTHERS, M.D.
SUPERINTENDENT WALNUT LODGE HOSPITAL.
HARTFORD, CONN.

The danger of opium as a remedy in infancy has only recently been recognized. Many physicians give the drug or its alkaloids without the slightest recognition of its possible injurious effects on the organism in the future. In a recent text-book, a statement is made that the action of opium is transient in infancy, and without danger except in large doses. The prominence of certain proprietary drugs, as soothing syrups for children, and the characteristic effects of opium, with the great injuries noted later, have brought out facts of the damage from these sources.

In current literature little notice is taken of this danger, and yet a great variety of facts are constantly appearing, pointing out the disease and degeneration clearly traceable to this cause. In all probability the largest use of opium in infancy comes from its domestic application. The various tinctures and infusions are household remedies and, in many sections, the gum from the poppy is gathered and put away regularly as a household necessity. It is the most convenient and practical of all remedies in the obscure disturbances of childhood. No doubt, some physicians find it very useful and often give it thoughtlessly. The drug store files show how commonly it is used in infantile therapeutics, and often it is given in a routine way for a long time, particularly for neurotic and intestinal disorders.

My purpose is to call renewed attention to this danger, and show some new facts from the clinical side, that are not uncommon and, no doubt, can be confirmed in the practice of many physicians.

In adult life, opium and its alkaloids, in a general way, are marked excitants or depressants. Either one or the other is most prominent, and both always are in the same person. This is not dependent on the doses, although that is marked in many cases. One will have a long, early stage of stimulation and wakefulness, and then depression and sleep. The other will have only slight exhilaration, and rapid marked sedation. In one case recovery from its narcotic action is followed by malaise and much physical discomfort; in the other, rest and a degree of satisfaction resembling that which follows natural sleep. The psychic effects vary: In one, most pleasing mental quietness and satisfaction follow; in the other, unusual buoyancy followed by total oblivion and discomfort and recovery. In the former, the mind falsely reasons that some new, exalted mental condition has been attained, most desirable for the future. In the latter, the discomfort from reaction calls for relief in the removal of the drug. Both classes soon have a reactionary period of discomfort and nerve disturbance. These are general states to which there are almost infinite exceptions and variations. While the sedation from opium falls most markedly on the sensory centers, and nerves of sensation, its localized action on the psychic and organic functions varies widely. In one case profound alterations of the functions appear, and rapidly extend to the mental operations. The organism, after a period of sharp irritation, apparent in nausea and deranged digestion, seems to take on a certain immunity and toleration, or the organism appropriates opium as it does food, and a demand for its continuous use becomes more and more imperative. This is the state of the habitués, and is the result of a long use of it, or appears in some cases at the beginning of its use. It is evident that some unknown states of the organism are more susceptible to its physiologic action than others. It is a common observation that coarse, low organic natures, or imperfectly developed minds and bodies are less susceptible to the sedative effects of opium than high-grade, finely developed, nervous persons. In practice, opium as a medicine varies in its effects very largely from these conditions—the finer the organism, the more pronounced the effects and the smaller the dose required; the coarser the organism, other things being equal, the larger the dose to get its physiologic action. These general facts, with others, are the same in infancy as in adults, only less observed. The child who is given laudanum for some condition, and appears better, has had the pain distress-signals covered up, and at what sacrifice, or organic changes which follow, no one can tell. At all events, the same exhilaration and depression occur as seen in the adult. The former may not be noticed and the latter only seen, but the same conditions follow. In the infant the small power of resistance and the extreme susceptibility to physiologic influence from narcotics is not overcome by dosage. The physiologic action of ½ gr. of opium on an adult, and in 1/40 gr. on an infant is the same in degree, only in one case there is little or no resisting power. The infant has an unknown and undeveloped organism. The adult is, in some degree, known, and certain physiologic effects may be confidently expected. It is not a single dose or several doses given for certain disorders, although this is often marked in many ways, but it is the long-continued use that is followed by certain degenerations.

---

*Presented to the Section on Physiology and Dietetics, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Opium given in convulsions, with other drugs, and in intestinal troubles, and for insomnia, nervous irritation and unknown conditions, with apparent good results in temporary relief, is dangerous if continued any length of time.

Opium and its alkaloids seem to have two distinct effects on the nerve-centers and organism of infancy. Its sedative action is of the nature of palsy. Cell functions and growths are slowed up, retarded and finally changed. The changes following long-continued doses become permanent. The symptoms of dulness and stupor continue in lessened vigor and degrees of imbecility and mental perversion in later life. The freedom from pain and forced sleep with apparent steadiness of nerve force react in increased irritation and instability, with greater sensitiveness to all surroundings.

Nearly all persons who have been injured in infancy and early childhood from these drugs manifest these two characteristics. Increased dulness and stupor, or nervous irritation and instability, often both, may be combined in one. Beyond these are disorders of the nervous system and digestion, with low power of control and subject to morbid impulses that are largely uncontrollable. These various manifestations are better studied in the history of cases, the following of which are illustrations.

In a family of four children, whose parents were strong, healthy persons, living on a farm, one, a boy, was dull, passionate and of a low grade of intellect. He would overeat and drink to excess, water, tea, coffee, or anything he fancied. He was stupid and obstinate, and at times, excessively sensitive and irritable. No one in the family resembled him in any way, but all were healthy and vigorous in mind and body. When 1 year old he had a convulsion and was given opium daily for over a year. Then at long intervals, finally, it was abandoned, and it has not been used since. The parents noticed it was affecting him at the time, changing his mind and habits, and would not permit its use again. This was clearly an example of retarded brain growth with perversion of the functions, and later it will, no doubt, develop into some drug addiction or low form of dementia, disease and death. The history pointed to its use as the most prominent cause of this condition.

In a similarly healthy family, one son became an impulsive inebriate at 18 years of age. The others in the same surroundings and conditions of living are very temperate and well. During the infancy of this boy he was given morphia for intestinal disturbances. At one time it was taken for nearly a year, by advice of the physician. He was stupid and dull much of the time this was taken, and its use was continued as a medicine for years, at long intervals, and in one or two doses a day. He began to use spirits to excess soon after puberty, and is now a periodic inebriate. The clinical study indicated a degree of mental and physical perversion and degeneration, dating from the use of morphia in infancy. A case which came under my observation was that of two children of a distinguished missionary, one, a young woman, who at 24 years of age suddenly began to use opium and spirits to excess and showed much mental disturbance. During infancy she was nursed by a Hindoo woman, and was noted for her stupor and tendency to sleep. In early and later childhood she was extremely nervous and suffered from many hysterical affections. She was an accomplished teacher and a woman of great pride of character and ambition. Her brother, born two years later, was nursed by the same woman, and was noted for his somnolence and general stupor during this time. Later it was found that the nurse was an opium-taker, and that both children had been under the influence of opium from nursing. The boy grew up extremely nervous and irritable. At one time he drank beer to excess, then was a gambler. He was changeable and notional, became a clergyman; then a physician, and finally a speculator. He is now an opium-taker and neurasthenic, and invalid, although not 30 years of age. Two other children of this family, one born before this Hindoo woman became a nurse, and the other after she was discharged, are strong and healthy and free from any peculiarities of mind or body. The elimination of all other cases leaves the poison of opium the specific central factor in these cases. In my studies of the heredity of all alcoholic and opium inebriety, about 10 per cent. give some history of drugging in infancy. Paregoric and laudanum are the most common. Narcotism from opium by accident has been followed by defects which finally culminated in drug or spirit-taking. A boy, 2 years old, ate a large number of opium and candy lozenges and was narcotized for two days, and with difficulty prevented from dying. He grew up an erratic, unstable, and feeble child. Digestion was impaired and sleep broken, and finally, at 21, he became a spirit-taker and inebriate. Two brothers were healthy and strong. This was probably the result of narcotism. In cases of defective parentage, where nervous degeneration and unsoundness exist, the use of opium in infancy will intensify these states, and make them more pronounced. In children from drug-poisoned families, such as inebriates or those who, from nutritional disorders are suffering from autointoxication, opium may prove a most seductive drug for a time, but in the end be followed by more serious evils. Children of brain-exhausted, worn-out parents are often found to enjoy the effects of opium, and receive great apparent benefits from its use. Later they easily become drug-takers, and are the most incurable. Neurotic infants and children are, no doubt, very susceptible to these drugs, and the physiologic impression is so pronounced as to suggest organic changes.

A few instances are on record of hydrocephalus following the use of opium in children, suggesting serum in the ventricles, ending usually in exhaustion, coma and death. Many parents manifest an unreasoning therapeutic credulity in drugs in infancy, which physicians cultivate and sometimes heartily believe in. In such a case a very strong medical man continued an opium prescription for over a year, and the child grew up feeble-minded and is now an invalid. The next child in the same family is a hearty, vigorous man. He was not treated for any length of time during childhood by drugs. The use of laudanum in infancy was traceable in ten cases of epilepsy associated with spirit drinking and petty criminality. As these patients came from the lower classes and had a defective heredity, the influence of opium could not be separated as a specific cause. Undoubtedly, it was a large contributing one. I have gathered many histories which seem to confirm the impression that opium-taking in infancy and childhood is often an exciting cause of a latent hereditary predisposition to the drink mania. At all events, a large proportion of such persons seek relief from alcohol in the physical strain and stress of life, then take opium when the effects of alcohol become prominent.

Opium and its alkaloids, given to healthy children occasionally for some special purpose, are in all probability without injurious effects. In unhealthy, neurotic children, with defective ancestors, and evident imperfect development, the increased degeneration which follows the use of opium is clearly from this source. Where this drug is combined with other remedies, and given a long time, the effects are the same. They can not be lessened by the action of other drugs. No form of opium should be given to infants or children for more than a day at a time. While the effects of continuous sedation may be overcome by correct living, the cell injury and perversion of function is never repaired. The growth and development of other organs may do much to overcome in part, and cover up the injury, but the defects will appear from the presence of the slightest exciting cause. The following case has recently come to my notice.

Five children of healthy parents became inebriates, both alcoholic and opium, when about 20 years of age. There was no heredity nor any special exciting causes. The home life and example were good, and both parents were total abstainers. Each one seemed to be nervous and feeble, and lacking in vigor, then without any reason began to use alcohol and opium freely, and finally were addicted to its constant use. It was found that from early infancy and through childhood they had been given laudanum and other forms of opium, for all sorts of ills. The mother had treated them without the aid of a doctor, and opium was used continuously for several months at a time. They all suffered from nutritional and digestive disorders, and were all nervous insomniacs and irritable and dull at times. This domestic treatment was, no doubt, the cause of the degeneration and neurosis in manhood. Three of these persons are decidedly feeble-minded. One is a talented musician, the other an actor of some ability. Two use spirits alone; two use alcohol and opium; one uses opium alone. They are of the imbecile grade of inebriates.

Another case reported to me was that of a very highly cultivated woman who, at 34, began to use morphia without any apparent cause in pain or sickness. She was a philanthropist and on the visiting board of a hospital where such cases were treated, and was acquainted with the dangers of the use of the drug. All the possible causes were eliminated in the study and the remarkable fact appeared that opium was used very freely in the first two years of her life. It was with difficulty removed and she was feeble and very nervous until after puberty, when she became strong. Her own statement was that she found such peace and comfort from its effects that she could not abstain from it.

Several persons using alcohol have given, as a reason for this addiction, the fear of becoming opium-inebriates, They have found opium so seductive and pleasing as to be irresistible; with alcohol they felt safe. Opium-taking in infancy is the common history of many cases, and is generally the domestic use of laudanum at first, for disorders of mind and body.

The presence of nervous dyspepsia, which begins soon after puberty and by early or middle manhood becomes a most distressing disease, is often traceable to the free use of opium in infancy and early life. Early and profound exhaustion from slight overwork or excitement, seen in young persons, indicating low vitality and feeble nervous organism, is the result of opium-taking early in life. Early precocity or failure to sustain the expectations created have been noted in the cases of early addiction. The many constitutional defects and degeneracies which appear after puberty and in early manhood should always create an inquiry concerning the early therapeutics and drugs given in childhood. Where soothing syrups and prescriptions for seductive effects have been used a long time, the suspicion is strong that an opium diathesis has been created. I wish to emphasize that the use of opium and its alkaloids in infancy will, in a large proportion of cases, create a diathesis or predisposition to its use in later life. This predisposition is manifest in irritation and exhaustion, wth intense, uncontrollable impulses for relief.

Alcohol, chloroform, chloral and many of the most common narcotics are welcomed and largely used to supply this demand. This opium degeneration may take on sexual and nutrient manias and leave the brain in an infantile condition of vigor and stability. A "Christian

Scientist" who has made some reputation by his delirious theories, was, according to a Boston physician, brought up on opium. His mother was a narcotic, and to protect herself, gave her son opium freely in early life. He grew up undersized, and with a highly sensitive brain, full of delusive dreams and fantasies. This was another form of opium diathesis.

The second fact that I would note is that opium in infancy acting on the most unstable organism, the brain cells and centers, not only retards but prevents healthy physiologic growth. In defective heredity this is permanent, although it may be concealed until later in life. This physiologic action of exaltation and depression, the latter being the principal stage, is manifestly toxic and injurious from the functional derangement which follows. Where no disturbance is recognized, the real danger is concealed. The cell growth and functions suffer, mechanically, nutritionally and psychically, by checking activity, diminishing nutrition and changing direction and purpose of action. This is true of opium in all cases. Sometimes one effect is more prominent than others. In DeQuincy the psychic action was prominent. In some cases the anemia shows in the disturbance of nutrition, and in others the depression and suppression of organic activity is apparent.

The third fact to be remembered is the concealed danger from opium-drugging in infancy. If only neurosis is present, if defects of growth and function exist, opium will of necessity increase this condition. Anemia, exhaustion and perversion of organic activity follow. If some temporary state is present, opium, by covering up the pain-signal is not curative, but may be destructive in many ways not easily recognized until later in life. No one can tell whether this danger begins with the first dose or only after a succession of doses.

Lastly, the magnitude of this danger is not recognized as it will be in the future. Neurotic disturbances, obscure and open, and toxic diseases of many forms, have an early history of opium drugging. The ignorant mother who uses soothing syrups freely, to suppress the irritation of the infant, is not the only offender. The routine, and often thoughtless, physician who uses opium freely in infantile prescriptions is responsible in many ways for the wrecks of later life. The toxic cases under my care are striking illustrations of this evil. Inquiry in others brings out this cause with great frequency. While it is difficult to narrow down the etiology to this one factor, it is clear that the danger from this source has been and is a potent and wide-spread cause. We need more clinical researches and clinical studies in this direction.

THE BUBONIC PLAGUE IN SAN FRANCISCO.*

BY W. H. KELLOGG, M.D.
CITY BACTERIOLOGIST.
SAN FRANCISCO, CAL.

We have always regarded the plague as something very distant and impossible, and have read of its ravages in India and China with much the same feeling of composure and security that we read about an uprising of the natives in Madagascar. Or perhaps we have considered it as a matter of historic interest on account of the fearful epidemics which in pre-sanitary days used to sweep over Europe, devastating countries and hardly leaving enough people behind to keep up the archives and records of the state. Even now that it is among us, and in America for the first time, there seems to be a tendency to underrate its importance and dismiss it without a thought, as a scare designed for base political motives.

While I do not believe in becoming unduly excited about it, or in publishing far and wide that there is plague in San Francisco, I do not think that we should try to deny among ourselves the very existence of it, but should accept the situation as it is and do our best to stamp it out while it is still within our power. It would be folly to ignore its presence and allow it to increase to such an extent that the national government would be compelled to step in and take from our hands the work of fighting it and perhaps quarantine the whole city with U. S. troops, thus advertising to the world that San Francisco was not only financially negligent in the face of an epidemic of a disease which is guarded against by the U. S. Marine-Hospital Service with more watchfulness and dread than any other.

San Francisco should look at the history of Oporto, and profit by her experience. The bacteriologist who announced the first case, in January, 1899, narrowly escaped being mobbed. The health authorities were hampered by the merchants and the press, who harped on the injury to trade caused by the announcement of the existence of plague which the laymen, in their infinite wisdom, declared did not exist. The health authorities were refused assistance until finally so many cases appeared that the government stepped in, surrounded the city with a cordon of soldiers, absolutely stopping all travel and business, and it was only after the lapse of one year, and after the experience of a partial famine, that the city was released and declared no longer infected. In the meantime its citizens had parted with the small sum of $7,000,000, a good deal of money, but the probability is that by that time, even the omnipotent and scientifically wise press had arrived at the conclusion that their lives were more valuable than their business.

Just how the disease was introduced into this country is a mystery, as the first case discovered was in a Chinaman who had been in Chinatown sixteen years. The probability is that he was not the first, and this theory is strengthened by the fact that there had been an increased mortality in that district during the months of January and February. During those months there were 97 deaths reported from the Mongolian quarter, and of these 20 were ascribed to lobar pneumonia, 5 to bronchopneumonia, 4 to typhoid fever, and 7 to acute miliary tuberculosis. Now all of these diseases, in the beginning of an epidemic of plague, should be regarded with suspicion, and examined bacteriologically, for they are simulated very closely by the pest.

The assistant city physician, whose duty it is to inspect all dead Chinese who have died without attendance by a regular physician, is at a great disadvantage in arriving at the cause of death. He simply sees the body after death, and by questioning the relatives or undertaker, who are ignorant and use very broken English, he makes a guess at the cause of death, taking into account the appearance of the body. According to the Caucasian statistics of San Francisco, the number of deaths from pneumonia, typhoid, and miliary tuberculosis, to every 97 deaths, would be 12.3, whereas the assistant city physician, with the means at his command, has been forced to consider that there were 36 of these cases out of a total of 97 deaths for the two months. Since the plague can readily be mistaken for these diseases, we are justified in the suspicion that some of these cases were plague. Nor is the fact that we have not a widespread epidemic proof to the contrary, for it has been the history in other parts of the world that the plague gets a foothold very slowly and insidiously. There is a first case, and then it may be a couple of weeks before the second, and they may appear occasionally and at intervals of several days or weeks, until the houses and the quarter become infected, and then the real epidemic breaks out, and hundreds of cases occur. I will commence the account of the recent occurrences by history of the first case as supplied by the Chinese Consul. We have found that the only way we can get histories of these cases is by turning them over to the police department, and by means known to the detectives they find out a few items.

---

*Read before the San Francisco County Medical Society.

Case 1.—Wing Chuc Ging, aged 41, in Chinatown sixteen years, died March 6, 1900, in the basement of 1001 Dupont Street. He worked in a woodyard on Pacific Street, and stated to Wing Ging, his brother, that he had been sick for six months. On February 7 he called at the office of Dr. Chung Bu Bing, 309 Dupont Street, complaining of headache, tired feeling, pain in the head, back and chest and fever. The symptoms and pain in urinating had been present in the bladder for two or three days. A diagnosis of inflammation of the bladder was made and medicine given for this. On February 14, the patient consulted Dr. Wong Wo, 766 Clay Street, and told him he had contracted gonorrhea. He had no fever and no pain except in the genitals, complained of a lump in the right groin and was somewhat lame on that side. He also stated that he had a urethral discharge, but would not allow a special examination. He was given some medicine to relieve the difficult and painful urination, and a plaster to apply to the lump. No surgery was instituted and no further medical treatment. He was in bed two weeks, but would not tell his brother of his trouble. A few days before he took some Chinese medicine which he obtained from Dr. Wong Wo. This caused vomiting, profuse diarrhea, and collapse, followed by death.

From the history this was evidently an ambulant case, in which an exacerbation occurred, marked by the vomiting, diarrhea, and collapse ending in death. I saw this patient with Dr. Wilson, in the basement of the Globe Hotel, on March 6. I observed that there was a swelling of the inguinal lymphatic glands on the right side. There was no suppuration and the skin was unbroken. The glands about the saphenous opening were enlarged, and in this situation there was an open sore, which was dried and partially healed over. As a mere matter of routine I removed some of the glandular tissue, not expecting to find anything in it. No autopsy was performed. Smear preparations from the interior of the gland showed large numbers of a small short bacillus resembling the bacillus of bubonic plague. Isolation of the organism was commenced by culture methods. The next day a rat, guinea-pig and monkey were inoculated with an emulsion made from the gland removed from the Chinaman. The following is the account of the results obtained:

(The municipal laboratory being short of animals, and short of funds, and as it was deemed unsafe to conduct experiments with plague inside the city limits, the invitation of Dr. Kinyoun to use his laboratory was accepted and the inoculation experiments detailed below were performed in the Government Laboratory at Angel Island, by Dr. Kinyoun of the U. S. Marine-Hospital Service, asisted by Dr. Agnes Walker and myself.)

March 7, 1900, 2 guinea-pigs—each 700 grams—1 half-grown white rat, and 1 monkey, were inoculated with an emulsion made from a piece of glandular tissue removed from the body of Wing Chuc Ging on March 6, 1900. The animals were placed in appropriate cages, protected in the usual manner. Cover-slip preparations were made from the glandular tissue, in which were found a number of micro-organisms, suspiciously like the bacillus of plague both as to their morphology and staining. Cultures were made from a portion of the tissue. March 8, the animals were in good health. March 9 and 10, there was no change and the animals ate well. March 11, one guinea-pig was found dead at 8:30 a.m., the other quite sick, the white rat dying, the monkey dull, listless, and would not eat; at 11 a.m., both the rat and sick guinea-pig were dead.

Post-mortem examination of guinea-pig No. 1.—On section there was an extensive edematous area on the left side extending from the axilla to the groin, the center of which contained a large quantity of exudate. The tissues about the site of inoculation were necrosed. The inguinal glands were considerably enlarged and reddened. Cover-slip preparations made from the exudate, at the point of inoculation, showed almost a pure culture of a short bacillus with a tendency to bipolar staining. The groupings of these organisms was quite characteristic. The peritoneal cavity contained a small quantity of bloody serum. The spleen was enormously enlarged, fully three times its normal size; the surface was very much reddened and covered with small yellowish dots; the spleen was also very friable. Cover-slip preparations made from the spleen showed an enormous number of a short diplobacillus, quite rounded, with a marked tendency to bipolar staining. The liver was enlarged and contained several yellow spots similar to those observed on the spleen. The mesenteric glands were not appreciably enlarged. The pericardium contained a considerable quantity of pale, straw-colored serum. The heart's blood was fluid and contained large numbers of the same organism as that found in the spleen, and at the point of inoculation. The lungs showed no evidence of change. The pleura contained about 3 c.c. of bloody serum. Cultivations on agar and in bouillon tubes were made from the spleen and heart's blood.

Post-mortem examination of guinea-pig No. 2.—The body was well nourished. On section the whole left side of the abdominal wall was in a state of coagulation necrosis, more intense at the point of inoculation, and extending from the axilla to the groin. The axillary and inguinal glands were much enlarged and reddened. A small hemorrhage was noticed in the inguinal region. The peritoneal cavity contained a small quantity of bloody serum. The spleen was very much enlarged, fully as much as that observed in guinea-pig No. 1; it, however, did not contain the yellow spots. The liver was engorged and contained several yellow spots on its anterior surface. Cover-slip preparations made from the spleen showed the same short bacillus, with rounded ends, presenting the same poles as those found in the first pig. The pericardium contained a considerable quantity of bloody serum. The heart's blood was fluid, and contained great numbers of the same short bacillus, which took the characteristic stain. The lungs were to all appearances normal. The pleural cavity contained a small quantity of bloody serum. A cultivation on sugar and in bouillon was made from the spleen and heart's blood.

Post-mortem examination of white rat.—Dead about two hours. At the point of inoculation there was a small area of coagulation necrosis, surrounded by a considerable area of edema. The peritoneal cavity was dry. The spleen was enlarged to about four times its natural size, very dark in color, and friable. Cover-slip preparations made of splenic pulp and stained with aniline colors, particularly thionin, demonstrated enormous numbers of a short bacillus with rounded ends, staining more deeply at the poles. The heart's blood contained the same organism in large numbers.

Post-mortem examination of monkey (March 13).—It had been dead about six or eight hours, having been inoculated on March 7, with an emulsion made from a piece of glandular tissue removed from the groin of the dead Chinaman, and having died on the morning of the 13th, after showing signs of illness for two days. At the point of inoculation, which was in the left breast, there was considerable coagulation necrosis. Subcutaneous edema was well marked, especially on the left side over the abdomen. The axillary lymphatic glands on the left side were enormously enlarged, forming a mass as large as a walnut. There was no enlargement on the opposite side. On section the gland showed congestion and hemorrhages into the gland substance. Cover-slip preparations were made from the interior of the gland and stained with thionin. They showed the presence, in large numbers, of a short coccobacillus, with rounded ends, staining more deeply at the poles. The spleen was greaty enlarged, dark and friable and contained the same organism in enormous numbers. The pericardium contained a considerable amount of turbid fluid. The heart's blood was fluid and contained great numbers of the organism described above. The lungs showed the presence of a well marked pneumonia.

The organism which was present in pure culture in the lymphatic gland of the Chinaman and which was the cause of death of these animals I have obtained in pure culture from all these sources, first from the gland of the Chinaman, and from the heart's blood and spleen of the inoculated animals. I found that it had the following characteristics and have compared it with a culture from Bombay isolated by Pozzi.

Bacillus Pestis, San Francisco.—A small, short, thick bacillus, with rounded ends, frequently occurring in pairs, and in agar and bouillon cultures in short chains. They are nonmotile and no spore formation was observed. Colonies on agar plates, in seventy-two hours at 35 C., were .5 to 1 mm. in diameter, round, semitranslucent, with a bluish or opalescent tinge. The surface is rounded, smooth and moist looking, and the consistency in older cultures tough and stringy. The bacillus was a facultative anaerobe and did not liquify gelatin, and was pathogenic to white rats. It stains readily with the aniline dyes, frequently taking the stain more deeply at the ends, the so-called pole staining. This peculiarity was more marked with the carbol fuchsin, but thionin seemed to give the most satisfactory results. In old cultures there were many swollen and rounded forms, which showed the bipolar staining in an exaggerated manner, causing them to almost have the appearance of little circles and crescents. It deodorized by Gram's method. Bouillon was not clouded, and a film formed on the surface, and settled downward in a fine cloud when the tube was jarred. Bouillon cultures answered to Widal's test with Yersin's serum in a most typical and satisfactory manner.

In addition to the above-described case, I have assisted Dr. Wilson in the post-mortem examination of three other Chinese, two of whom I feel positive were plague cases, but I have been unable to prove this for the following reasons:

The cases were in such an advanced state of decomposition when I saw them that there were many organisms present in the blood and organs in addition to one which resembled the bacillus pestis. The animals which were inoculated from the tissues of these cases all died, but of a mixed infection. I succeeded in obtaining a tube of nearly a pure culture of what was morphologically the bacillus pestis from Case 3, and a rat was given the entire tube at one dose, with the result that it died in thirty-six hours. The post-mortem did not show sufficient bacilli in the organs to clinch the diagnosis of plague. My theory is that there were enough toxins present in the culture to kill the rat before the organism had time to multiply in its body. A guinea-pig was inoculated from this rat, but it died of pneumococcus infection, the plague organism having totally disappeared in the passage through the bodies of the two animals. As I have no more material nor cultures from this case I will never be able to prove it was plague, by inoculation experiments, although the post-mortem appearances and the presence of the organism in the blood would ordinarily be considered sufficient evidence. The results obtained in the other two cases were practically the same as in the one just described.

I am of the opinion that the thorough disinfection and cleaning up of the Mongolian quarter, which the San Francisco Board of Health has been carrying out with considerable vigor, has been of invaluable service in checking the spread of the disease before it had fairly gained a foothold. Vigilance should not yet be relaxed in the least, for it would not be surprising if other cases were discovered in the near future. In such event the measures taken will have to be most radical, for the reappearance of the pest will be evidence that a focus of infection has been established which nothing short of fire will obliterate.

VESICORECTAL ANASTOMOSIS.

WITH SPECIAL REFERENCE TO THE TREATMENT OF EXSTROPHY OF THE BLADDER.

BY JACOB FRANK, M.D.
Surgeon to the German Hospital; Consulting Surgeon to the St. Elizabeth Hospital; Jewish Orphan Home and Home for Aged Jews, Chicago; Corresponding Member of the Sociedad Medica "Pedro Escobedo"; Member of the Pan-American Congress, International Medical Congress, AMERICAN MEDICAL ASSOCIATION, etc.
CHICAGO.

(Concluded from page 1178).

EXPERIMENT 4.—A male pug cur, weight 22 pounds, was operated on May 6, 1899, and killed May 21. At the post-mortem the abdominal incision was found firmly united. The omentum was partly adherent around the site of the anastomosis. The bladder was empty and greatly contracted. On opening the bladder no appreciable changes were noticed, and the opening between the bladder and rectum admitted the tip of a finger. The rectal mucosa below and a slight distance above the fistulous opening was reddened, probably by the urine. Both kidneys looked bluish, not enlarged, nor thickened; the capsule stripped easily and was not thickened. On cut section the pelvis was found undilated, perfectly smooth and to all appearances normal. The proportion of cortex to medulla was normal. All other organs were found to be perfectly healthy.

Bacteriologic Examination.—A blood-serum and a glycerin-agar tube were inoculated from the pelvis of each kidney. Of these four culture-media, three remained permanently sterile. One blood-serum tube on the third day showed a moist, shiny, whitish growth which liquefied the culture-soil. The growth consisted of very small bacilli, the character of which was not studied any further. They were not colon bacilli, and their appearance was probably due to contamination. At the site where the anastomosis was made the tissue appeared perfectly smooth and normal. No redness nor swelling was noticeable to the naked eye. Microscopic sections made from this part included both the bladder and rectum.

Microscopic Examination. (Figs. 5 and 6.)—In the rectum the following conditions were noted: The intestinal and bladder walls were completely united, and blended in such a manner that the two tissues formed an acute angle of about 80 degrees, which projected into the bladder. The intestinal surface was lined by mucous membrane, the bladder surface by stratified epithelium. Both these tissues presented a normal appearance. They did not come completely together. On one side the intestinal mucous membrane was thinned out; on the other, layers of epithelial cells lining the bladder were gradually reduced to a single layer. It appeared as if from here the epithelial cells were in the act of growing over to reach the rectal mucous membrane, although a small strip of tissue had not yet been covered by epithelial cells. Here connective tissue laid free to the surface. This tissue consisted of cells of an embryonal type and of fibroblasts. The union between the bladder and rectal walls was complete throughout its entire thickness. One could not distinguish—at the line of the union—what was originally bladder and what was intestinal tissue. The mucous membrane of the rectum, and the epithelial lining of the bladder entirely disappeared at the line of union. Still, one could see the lymphoid tissue of the rectum at the site of the union, although the lymph follicles varied from the normal in that they showed a diffuse infiltration of polymorphonuclear leucocytes. So numerous were the latter that they predominated over the cells of a lymphoid character.

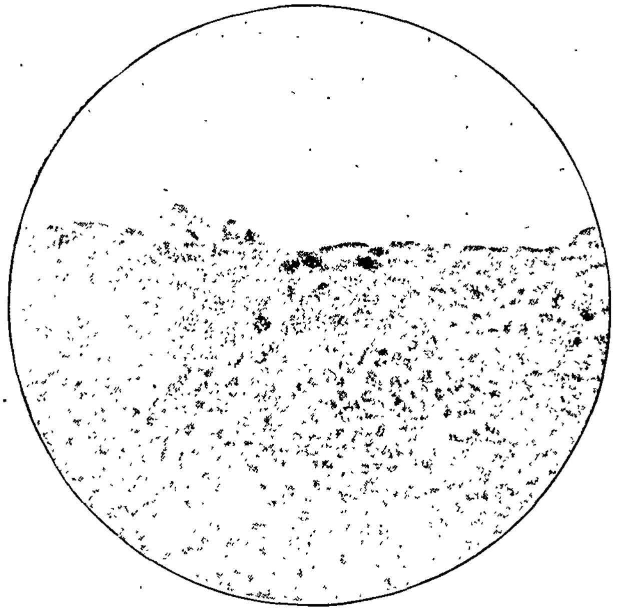


Fig. 5.—From dog No. 4, operated on May 6, 1899; killed May 21, 1899. Section of anastomosis (high magnification). The line of union is to the right, it is not seen in the photomicrograph. The latter shows the vesical epithelium; in it a cell with a karyokinetic figure, indicating a regeneration of the epithelium.

Gram's stain showed, in the tissues of the anastomosis around the line of union, short bacilli with rounded ends, which had kept the stain poorly. These micro-organisms were probably colon bacilli. The examination of the kidney tissue—cortex, medulla and pelvis—showed normal conditions, with no evidence of inflammation or degeneration.

Experiment 5.—A male dog, weight 30 pounds, was operated on May 11, 1899, killed May 12, and the bladder and rectum removed *en masse*, both ends of the latter tied, as well as the urethra, and water injected into the rectum by means of a syringe. The parts were distended to their maximum without any leakage. The bladder showed a slight redness, although the rectum did not.

Experiment 6.—A small bitch fox-terrier, weight 15 pounds, operated on May 11, 1899, was killed May 12. The same conditions prevailed as in Experiment 5.

Experiment 7.—A male black and tan cur, weight 14 pounds, operated on May 16, 1899, died May 20. The post-mortem did not reveal the exact cause of death. The external wound was in good condition, with no peritonitis, and no fluid in the peritoneal cavity. The bladder was empty and contracted and, on opening, showed signs of inflammation. The coupler was still in place and softened. Both kidneys were of the some size and not enlarged, but slightly congested. All other organs were normal except the liver, which was very much congested.

Experiment 8.—A large Dane bitch, weight 65 pounds, operated on May 18, 1899, died May 21. The autopsy showed the abdominal cavity to be full of a serohemorrhagic effusion which escaped in large quantities. The omentum was engorged with dark blood, and adherent to the abdominal wall at the site of the operative incision as well as to the place of the anastomosis. Peritonitis was absent and all the internal organs, including the bladder, kidney and ureters, were normal. The macroscopic condition of these does not point to a cause of death in consequence of the operation. The dog had an enlarged thyroid gland, with more or less detached masses growing into the mediastinum, which proved to be a struma colloidea, on microscopic examination. No further microscopic or bacteriologic examinations were made.

Experiment 9.—A male spaniel, weight 25 pounds, operated on May 21, 1899, died June 9. Several days after the operation a paraphimosis and gangrene of the penis developed. On opening the abdominal cavity, it was found to be empty, with no signs of peritonitis, which was also true of the pelvic cavity. The bladder was contracted and the internal surface somewhat dark red in color. The anastomosis was firm and admitted the tip of the index finger. The bladder surface and rectal mucous membrane about the anastomosis appeared normal. The kidneys were slightly swollen and pale, and the capsules stripped easily. The relation of the cortex to the medulla was normal, and the cortical markings distinct. The pelves were normal, not enlarged and the mucous membrane smooth. They contained no fluid. The ureters were normal and not dilated. All the internal organs were normal excepting the spleen, which was soft and of a dark color.

Microscopic Examination.—Pieces were taken, for microscopic examination, from the cortex and medulla of both kidneys. The latter pieces included the mucous membrane of the pelvis. The tissue of both kidneys was found to be normal and free from inflammatory and degenerative changes except as to one point. In the medullary portion of the right kidney, near the pelvis, two small foci of round-cell infiltration were found. The infiltrating cells consisted of lymphocytes and polynuclear leucocytes. Bacteria could not be demonstrated in these two small inflammatory areas. The possibility that these foci were due to micro-organisms having migrated from the rectum through the ureters into the kidney can probably be excluded. The round-cell infiltration probably owed its origin to hematogenous influences, possibly from some toxins circulating in the blood.

From the results of the post-mortem and the microscopic examinations, it appears that the death of the dog was not due directly or indirectly to the operation, nor was anything found that pointed to an infection of the kidneys from the intestines.

Experiment 10.—A male fox-terrier pup, operated on May 27, 1899, died May 29. The autopsy revealed the fact that the dog died of a general peritonitis. The abdomen was full of a sanguinous fluid and the omentum engorged with blood. The bladder was contracted and empty, and the mucous membrane, on cut section, showed signs of inflammation. The site of anastomosis was firm and showed no leakage. The coupler was still in place and retained its shape. The right kidney was slightly congested, but not enlarged. The capsule stripped easily and the cortical markings were not well defined. The pelvis contained no fluid and the ureters were not enlarged. A similar condition was found on the left side. There was no microscopic nor bacteriologic examination made.

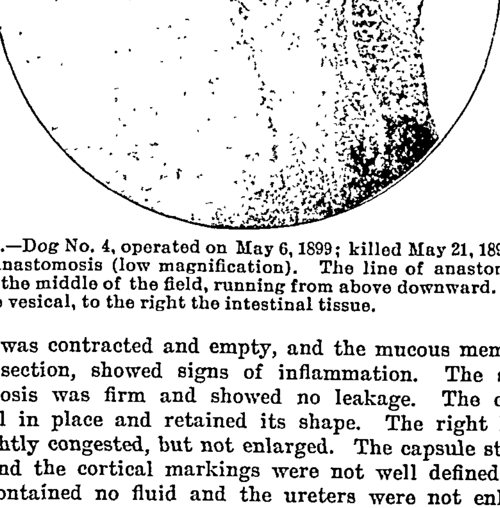


Fig. 6.—Dog No. 4, operated on May 6, 1899; killed May 21, 1899. Section of anastomosis (low magnification). The line of anastomosis is shown in the middle of the field, running from above downward. To the left is the vesical, to the right the intestinal tissue.

Experiment 11.—A large black, male Gordon cur, weight 85 pounds, was operated on May 30, 1899, and killed June 5. The post-mortem showed the external wound suppurating and the abdomen empty. The bladder was contracted and thickened and the mucous membrane of both bladder and rectum appeared reddened on cut section. The site of anastomosis was firmly united and, on distending the bladder and rectum with water, no leakage occurred. Both the kidneys and ureters appeared normal, with the exception that the vessels of the capsule were slightly congested. No further examination was made.

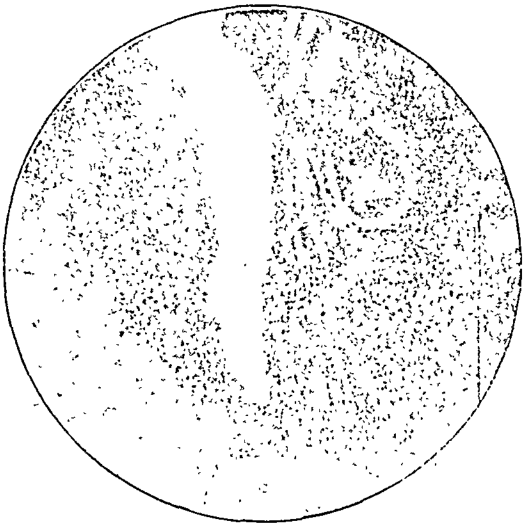


Fig. 7.—Dog No. 13, operated on June 1, 1899; killed June 28, 1899. Section of anastomosis (high magnification). On the left of the field the vesical tissue, on the right side the intestinal mucosa. The columnar epithelium of the intestinal mucosa has grown toward the vesical side and lines to some extent the vesical surface.

Experiment 12.—A male dog, weight 30 pounds, operated on June 1, 1899, was found dead June 3. A post-mortem revealed the abdomen empty, with an absence of peritonitis and the omentum adherent to the line of operative incision. The bladder was thickened, well-contracted and showed signs of inflammation, but it did not extend below the sphincter vesicæ. The mucous membrane was swollen and reddish-brown in color. Under hydraulic pressure there was no leakage at the site of anastomosis. The coupler was still hard and in place. The kidneys were of normal size, but bluish in color, and on stripping off the capsule the surface vessels were found enlarged. On cut section the cortex, as well as the medulla, was of a dark reddish-brown color with the cortical markings ill-defined and the pelves smooth and containing no fluid. The ureters were to all appearances normal. All the other organs were normal excepting the liver, which was greatly congested. A further examination was not conducted.

Experiment 13.—A bitch, weight 40 pounds, operated on June 1, 1899, was killed June 28. The animal was well nourished, in perfect health, very playful and lively, and killed by chloroform narcosis. Externally the abdomen presented, in the median line, beginning about an inch above the symphysis pubis and extending upward for a distance of about 2½ inches, a healed, smooth, linear cicatrix. On opening the abdomen by a long median incision, the large omentum was found very slightly adherent to the internal surface of the abdominal parieties at the site of the cicatrix. The extent of these adhesions was very small. The omentum showed no signs of inflammation. The abdominal and pelvic cavities did not contain any fluid. The peritoneum was smooth and shining, and showed no redness nor evidence of inflammation. The bladder was well contracted, firmly united to the rectum, and the place of union everywhere covered by an uninterrupted coat of smooth peritoneum. An inspection of the intestines showed them to be normal.

The kidneys were of normal size and appearance, but, like all the internal organs, were congested in consequence of the death by chloroform. The cortex and medulla showed normal relation and appearance. The pelves did not contain any appreciable amount of fluid. The mucous membrane of the pelvis was smooth and pale, and presented no signs of inflammation. The ureters were not enlarged. The internal surface of the bladder, which contained some fecal matter, was thrown into rugæ. In color, this organ was pale pink, and showed no inflammatory changes microscopically. The anastomosis was firm, and admitted the tip of the index finger. The anterior aspect of the ring was lined by bladder tissue, the posterior by rectal mucous membrane, which appeared perfectly normal. Where the tissues from the bladder and the rectum met there was a slight depression which ran along the whole opening. The rectal mucous membrane in the neighborhood of the anastomosis appeared normal. All internal organs, such as the spleen, liver, lungs, heart, etc., were normal.

Anastomosis (Figs. 7 and 8).—The union between the wall of the rectum and that of the bladder was perfect. There was no doubling up of either intestinal or vesical tissue, and the line of union contained very little newly-formed connective—cicatricial—tissue. No evidence of inflammation was found in the line of union. The rectum presented a normal histologic appearance. The internal surface of the bladder, however, showed some marked changes. The lining epithelium at and near the point of union was missing, and the tissue forming the surface had the character of granulation tissue. It consisted of a vascular tissue formed of round cells imbedded in a matrix of fusiform cells and connective-tissue fibers. It appeared, therefore, that the presence of the fecal matter with its numerous bacteria had set up an inflammatory reaction on the internal surface of the bladder. Bacteria, however, were not found in the granulation tissue, nor in the tissue forming the line of union between the bladder and rectum. The following very interesting observation was made at the line of union: In some places the columnar epithelium of the rectal mucous membrane had grown from the rectal tissue over the bladder surface. This covering of the bladder surface by intestinal epithelium was not yet very extensive, but there undoubtedly existed a marked tendency of the intestinal epithelium to grow by extension over the bladder surface and cover it, as in consequence of irritation it had lost its own epithelium. In neither kidney did the pelvis, medulla nor cortex present appreciable histologic changes, and there were no signs of inflammation or degeneration. There were found, however, a few micro-organisms in both organs, as follows: In the right kidney, in tissue near the surface of the pelvis, were bacilli, a few diplococci and some deeply staining round bodies, which looked like either torula saccharomyces or protozoic bodies; in the cortex, a few bacilli in the convoluted tubules and in Bowman's capsules. In the left kidney, in tissue near the surface

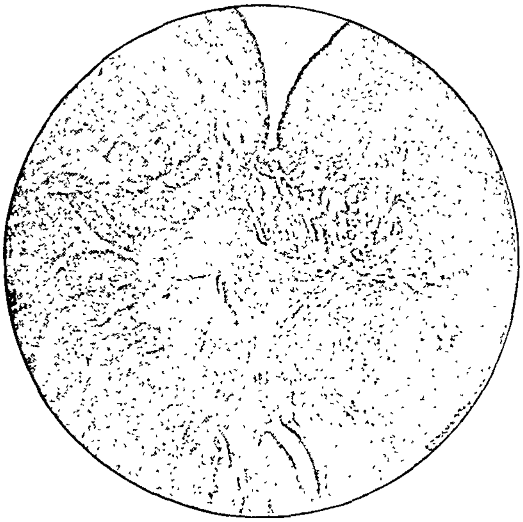


Fig. 8.—Dog No. 13, operated on June 1, 1899; killed June 28, 1899. Section of anastomosis (low magnification). The left side of the field shows the vesical, the right side the intestinal tissue.

of the pelvis were a few bacilli; in the cortex, likewise a few bacilli. These micro-organisms were nowhere found in large numbers, but only seen sparingly here and there.

Bacteriologic Examination.—Two glycerin-agar tubes were inoculated from the pelvis of each kidney. Of each of the two groups one developed a growth, consisting in each instance of a mixture of bacilli—colon as it appeared—and diplococci.

It must be conceded that both kidneys in this case had become infected, but it appeared, moreover, that the infection must have only recently occurred. The number of micro-organisms found in the kidney was not large, and there were not yet present any appreciable histologic changes. The mucous membrane of the bladder, it seems, in consequence of the irritation from the fecal matter, had lost its epithelium, in part at least, and had developed signs of a reactionary inflammation. It is not unreasonable to suppose that the infection which had occurred might have been prevented by regularly washing out the bladder, which, in the case of a dog, can not be well done, but which could be done with a human patient.

Experiment 14 (Fig. 11).—A black bitch, weight 23 pounds, operated on June 5, 1899, was killed November 22, before the Chicago Medical Society. On opening the abdominal cavity, the peritoneum, including the omentum and all the abdominal structures, appeared normal and free from any inflammatory changes of reaction. The anastomosis between the bladder and rectum was firm and covered by normal peritoneum. Before cepting as to an infection *in situ*, the kidneys were freed and disturbing the relation of the anastomosis any further, ex-lifted out of their normal position, and inoculations made from the pelvis of each, into glycerin-agar tubes, in the usual way. The kidneys and ureters were normal in color and size, and the substance of the kidneys was also found to be normal on cut section. The bladder was firmly contracted and the mucous membrane of both bladder and rectum looked perfectly normal. The fistulous opening between the bladder and rectum was small, and the tissues forming it corrugated and healthy. The other organs were found normal.

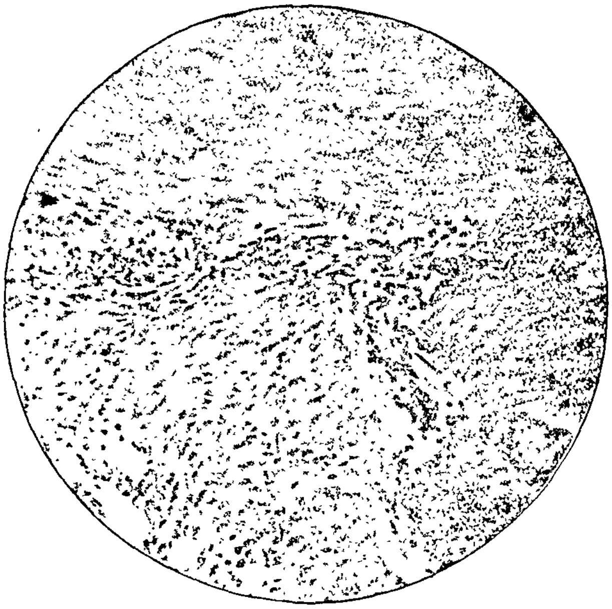


Fig. 9.—From dog No. 15, operated on June 10, 1899; killed September 11, 1899. Section of anastomosis. Spencer prof. ¼ in.; Leitz. oc. No. 3. The upper part of the field shows the intestinal, the lower part of the field the vesical muscularis.

Bacteriologic Examination.—The four test-tubes inoculated from the pelves of the kidneys were kept in the incubator, at blood temperature for six days, and remained absolutely sterile, no growth of any kind developing.

Histologic Examination.—The tissues of the cortex and medulla of both kidneys were normal. The pelvis of the kidney on either side was lined by normal epithelium and the subepithelial tissue of the pelves showed a moderate amount of round-cell infiltration. The cells forming this infiltration were of the type of young connective-tissue cells and lymphocytes. Polynuclear leucocytes were not seen anywhere in the subepithelial tissue. No bacteria of any kind could be demonstrated, either in the pelvis, the medulla or the cortex of either kidney.

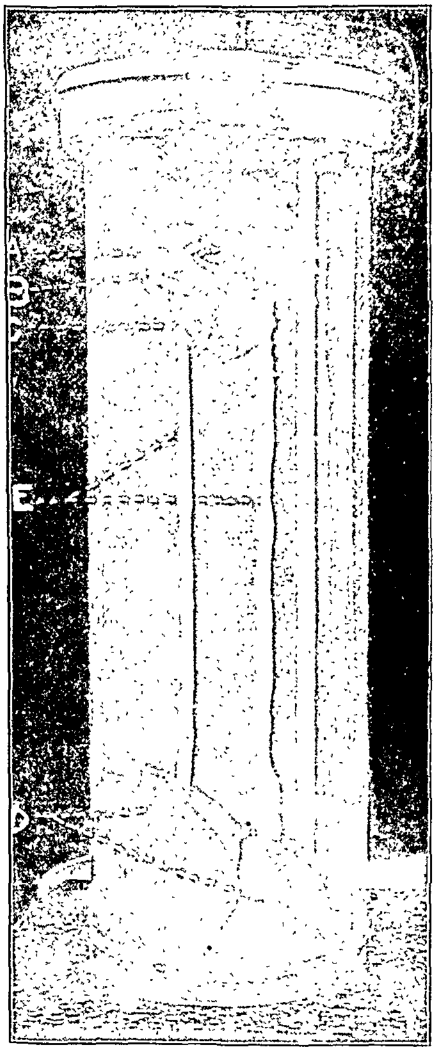


Fig. 10.—Experiment No. 3.—A. Opening between bladder and rectum. B. Bladder. C. Prostate. D. Kidneys. E. Ureters.

From the above results it is safe to say that the kidneys in this dog were free from any infection and, to all appearances, the canine was in perfect health.

Experiment 15.—A large male, Gordon cur, weight 50 pounds, operated on June 10, 1899, was killed September 11. This dog suffered from the red mange, but otherwise was apparently healthy. The post-mortem showed the external operative wound completely healed, with the exception of a small stich-hole abscess. There were slight adhesions of the omentum at the site of the abdominal incision, and it was also slightly adherent to the left side of the anastomosis, at which place a loop of intestine was likewise fastened by small bands of fibrous tissue. There were no other evidences of peritonitis. The anastomosis was firm and covered by smooth peritoneum with the bladder well contracted. The right kidney and ureter appeared normal in color and size, but the left kidney showed injected vessels and was of a darker color than the right. The left ureter was increased to double the size of the right. All other organs looked normal. Inoculations were made from the pelves of both kidneys and the colon bacillus developed from both groups.

Histologic Examination (Fig. 9).—The subepithelial tissue of the pelves of both kidneys showed granulation tissue densely infiltrated with round cells. In this were also demonstrable short plump bacilli with rounded ends (colon bacilli) and staphylococci. The kidney substance proper, of the right kidney, did not show any marked changes, but in the interstitial connective tissue there were found a very few bacilli of the type described above. The left kidney showed interstitial foci of small round-cell infiltration, and these areas also contained many colon bacilli and a few staphylococci. Numerous bacilli were likewise found in the glomeruli.

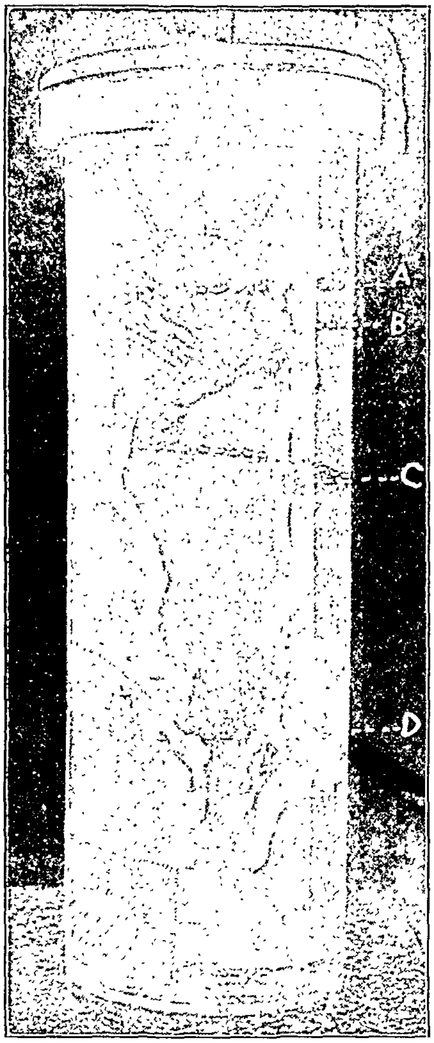


Fig. 11.—Experiment No. 14.—A. Opening between rectum and bladder. B. Rectum. C. Ureters. D. Kidneys.

The line of union at the site of the anastomosis demonstrated a very intimate blending. There was practically no connective-tissue scar, the muscularis of the rectum and that of the bladder being in the closest apposition. The rectum was covered by normal mucosa with a normal epithelial lining. The internal surface of the bladder was void of epithelium, but there was present granulation tissue containing many young embryonal connective-tissue cells and lymphocytes as well as colon bacilli and a few staphylococci.

The results of this examination unquestionably showed that an infection had occurred of both the bladder wall and kidneys, although the changes in the right kidney were comparatively slight.

CONCLUSIONS.

From the careful histologic and bacteriologic examination which was conducted in a number of the cases operated on, it appears beyond a doubt that vesicorectal anastomosis may be performed on a dog without leading to an infection of the kidneys. In two instances both the histologic and bacteriologic examinations showed a total absence of infection, and one of these cases was that of a dog killed six months after the operation. If the results on dogs, which naturally can not be kept under the best hygienic conditions and where no after-treatment could be instituted, furnished results like the above, it is not unreasonable to expect far better terminations in the human patient where after-treatment such as washing out the bladder could be commanded.

The advantages of vesicorectal anastomosis may be summarized as follows: 1. Simplicity and shortness of time required for the operation. 2. No danger of ureteral constriction by the bowel scar, nor sloughing of an implanted trigone, as in Maydl's operation. 3. Comparatively little danger of infection. 4. It is not only applicable in exstrophy of the bladder, but also in other pathologic conditions of that organ rendering life a burden.

In concluding this paper I desire to extend my thanks to Dr. Sylvan Kunz, Dr. Mortimer Frank and Mr. Richard Espig, for their valuable assistance.

BIBLIOGRAPHY.

Bardenheuer: Die Drainirung der Peritoneal Höhl.

Boari: Sul traplanto degli uretri nell intestino per mezzo del bottone Accad. del Scienze mediche e naturali di Ferrara, Dec. 8, 1895; Ann. des mal. des org. gén.-urin., Jan., 1896.

Buard et Fraikin: Jour. de Méd. de Bourdeaux, Nov. 29, 1896.

Chalot: Indépendance Méd., 1896.

Chaput: Arch. gén de Méd., Jan., 1894.

Fenger: Annals of Surg., Vol. xx, 1894.

Giodano: Dell innesto degli ureteri nel intestino crasso et della vesica e della esportazione della vesica e della prostata Rif. Med., Vol. ii, No. 117. May, 1892; La Clinica Chir., Anno ii, 1894.

Glück et Zeller: Arch. für Klin. Chir., xxvi.

Harrison: London Med. Soc., April 12, 1897.

Holmes, Timothy: Treatise on Surgical Treatment of Diseases of Infancy and Childhood. (1869.)

Kalabin: Centralbl. f. Gyn., Sept. 2, 1899.

Krause: Centralbl. f. Chir., No. 9, 1895.

Kryuski: Zur Technik der ureter implantation in den Mastdarm. Centralblatt für Chirurgie No. 4, 1896; Bul. Med., Jan. 1896; Ann. des mal des org. gén.-urin., 1896.

Küster: Neue operiatonen au Prostata und Blase. Verhandlungen der Deutschen Gesellschaft für Chirurgie, 1891; Ann. des mal des org. gén.-urin., Feb., 1897.

LeDentu: Congrès de Chir., 1889.

Lorthioir: Ann. de la Soc. Belge de Chir.

Mathes: Zur Casiustik der Ureter Implantation in der Darm.; Deutschen Zeit. f. Chir., Bd. xlv.

Maydl: Wiener Med. Woch., July 4, 1896; Nos. 6-8, 1889.

Morestin: Soc. Anatomique, 1892.

Murray: British Med. Jour., June 12, 1897.

Nichaus: Centralbl. f. Chir., 1887.

Novaro: Traplantamento transperitoneale dell' uretere nella vesica cura della fistola uretero-vaginale, Acc. delle Scienze di Bologna, 1893; Bollet della Soc. tra i cultori delle Scienze Mediche, Sienna, Anno v., 1887.

De Paoli et Busacchi: Congresso Medico di Pavia, 1888.

Pawlick: Am. Jour. of Obst., 1890.

Poggi: Riforma Medica, 1887, p. 138; Sulla cicatrizzazione delle ferite della vescica. Ass. delle Scienze di Bologna, 1888.

Pousson: Ann. des. mal. des. org. gén.-urin., 1888.

Pozzi: Ann. des mal des org. gén.-urin., 1891, et Jan., 1897; Sem. Méd., March 27, 1895; Bul. Med., Oct. 28, 1896; Tenth Congress Francais de Chir.

Pressat, André: LaCysto-enterostomie; Paris Thesis, No. 534, 1898.

Ragorigeanu: Pitresté: Rev. de Chir., Bucarest, May, 1897.

Reed: Annals of Surg, 1892.

Resegotti: Giorn. dell Accad. di Med. di Torino, 1896.

Richardson: In Traité de Chir., t. vii.

Robinson: Annals of Surg., Oct., 1893.

Rouffart: Sem. Med., June 9, 1895.

Rutkowski: Centralbl. f. Chir., April 22, 1899.

Schwartz: Riforma Medica, 1894.

Simon: The Lancet, No. 25, 1852.

Smith, Thomas: St. Barthol. Hosp. Rep., 1879.

Sonnenburg: Berliner Klin. Woch., 1881, and 1882.

Tarver: Med. Record, July 10, 1897.

Tietze: Beit. z. Klin. Chir., xviii.

Tizzoni: Centralbl. f. Chir., No. 52, 1888.

Tizzoni et Poggi: Memorie dell accad. della scienze mediche di Bologna, Anno. iii., Riforma Medica, 1888.

Tregkagki: Thèse Paris, 1892.

Trendelenburg: Volkmann's Sammlung Klin. Vorträge, No. 355, 1890.

Tuffier: Ann. des mal. des org. gén.-urin., April, 1888; Traite de Chir., t. vii., Paris 1892; Ann. des mal des org. gén.-urin., Feb., 1897; Soc. de Chir., June, 1898; Etudes Expérimentales sur la Chir. du Rein, Paris, 1889.

Tuffier et Dujarier: Revue de Chir., April, 1897.

Trosanoff: Ann. de Chir., russes 5.

Van Hook: The Journal, Dec. 16 and 23, 1893.

Vignoni: Gazz. Med. di Torino, No. xlvi., 1895.

Zuamensky: Neber parielle Resection der Harnblasenwand; Archiv f. Klin. Chir., Bd. xxxi.

ARGUMENT AGAINST SENATE BILL 34, FIFTY-SIXTH CONGRESS, FIRST SESSION, GENERALLY KNOWN AS THE "ANTIVIVISECTION BILL."

BY WILLIAM H. WELCH, M.D.
PROFESSOR OF PATHOLOGY, JOHNS HOPKINS UNIVERSITY.
BALTIMORE, MD.

On February 21, 1900, the Senate Committee on the District of Columbia, with Senator Gallinger in the chair, gave to advocates and opponents of the "antivivisection bill" a public hearing, at which I presented in its main features the following argument. After this hearing, on March 9, 1900, an amended or substitute bill, still designated S. Bill 34, was printed for the committee. The principal changes from the original bill made by this substitute are as follows: 1. The title now reads: "A bill for the regulation of vivisection in the District of Columbia." 2. The restrictions apply for the most part only to experiments on warm-blooded animals instead of to those on all vertebrates. 3. Experiments to acquire "surgical experience" are now allowed. 4. The class of officers of the United States Government who may experiment without a license from the District Commissioners is defined. 5. The use of other anesthetics besides ether and chloroform is allowed. 6. "Tests of foods" and "experiments relating to the communicability of disease" are added to the small list of experiments in which the animal need not be anesthetized nor killed afterward. 7. The permission to illustrate lectures in hospitals by animal experiments is withdrawn. 8. The requirements for special certificates—distinct from licenses—to experiment on a dog, or cat, on a horse, ass, or mule, are omitted. 9. The acquirement of physiologic knowledge is omitted as a permissible purpose of demonstrative experiments in lectures to medical students. 10. Licenses may be granted to any qualified person over 21 years of age. 11. All places where experiments are performed must be approved and registered. 12. The reports on the methods, the number and species of animals used, and the results of experiments must be made on January 1 and July 1, to the Commissioners, a delay not exceeding six months for alleged unfinished experiments being granted. These reports must be published.

The only concessions of importance made by these changes relate to the exclusion of cold-blooded animals, the omission of two classes of special certificates, and a wider choice in the selection of anesthetics. In several particulars the restrictions are made more severe, and in general the worst features of the bill remain unchanged.

In the following argument I have taken into consideration the changes made by the substitute bill, so that in some respects it differs from that presented at the public hearing on February 21.

It is most significant that, notwithstanding the chairman's suggestion at the outset of this hearing, that time might be saved by the omission of a detailed presentation of the benefits of vivisection, inasmuch as this bill, it was said, is not intended to hinder useful experimentation on animals, so large a part of the remarks of the previous speakers on both sides has been devoted to a discussion of this very subject. In truth, it could not be otherwise, for the principal line of division between the advocates and the opponents of this bill is marked by their opinions on the utility of animal experimentation. However much the advocates of the bill may assert that its enactment will not interfere with the proper uses of such experimentation and is designed only to check abuses, it is to be noted that the main part of their argument is *an attack on the practically unanimous opinion* of well-informed scientific and medical men that experimentation on animals is essential to the advancement of physiology and medicine and has conferred inestimable benefits on mankind. Nor is it surprising that antivivisectionists should cling tenaciously to this position, indefensible as it has become, for it is apparent that those who are convinced of the great value of experiments on animals, to science and humanity, will hesitate long before approving any legislation likely to check the progress of scientific and practical medicine.

Men who hold this conviction are not likely to give any favorable consideration to legislative proposals intended to restrict the use of an important method of scientific research until it has been demonstrated that its possible abuses are in fact common and great and uncontrollable by existing legislation and by public opinion, including that of the medical profession. They will inquire carefully whether the proposed legislation will actually reach the abuses, if these should be shown to exist, and, even if it should do so, whether it may not do more harm than good by obstacles put in the way of proper and useful experimentation. They may even pause to consider whether there may not be some inequality in singling out for penal legislation the infliction of pain on the lower animals for the purposes of biologic and medical science, while leaving untouched an immeasurably greater amount of suffering inflicted on animals by man for his food. his adornment, his amusement and other objects which it would be difficult to show are higher and more worthy than those of the physiologist and the physician.

I have sometimes wondered at the attitude of mind of professed humanitarians who are so eager to collect all testimony, even the most obscure, trivial and discredited, which may make the public believe that some new remedy or improved method of treatment, such as antitoxin or antiseptic surgery, demonstrated to the satisfaction of most physicians to be a priceless boon in saving human lives and relieving suffering, is of no value whatever. Still, it must be admitted that for the sake of their cause the antivivisectionists do well to ransack, as they do, medical journals and books for statements which may minimize the effects on the public of the constantly increasing evidences of the benefits to mankind, and indeed to animals also, derived from the results of animal experimentation. Of course, they can find statements in contradiction of almost any generally accepted truth in medicine, as they could in any science, but in view of the proverbial disagreements of doctors, and of the little interest which most of those who apply scientific discoveries have in informing themselves of the sources of their knowledge, it is on the whole surprising that the familiar list of medical quotations, which has so long done duty in antivivisectionist publications in opposition to the great value of experimentation on animals, should be so meagre, in contrast with the enormous preponderance of testimony on the other side, and should be representative of so few names of eminence, I believe scarcely one which would be generally recognized by physicians as of a writer especially competent to speak on this subject, however distinguished in other lines. So rapid have been the advances of medicine and surgery in recent years, attributable to knowledge gained from experiments on animals, that it may be urged that an adverse opinion expressed even a decade ago would be reversed to-day, but I am not sure that the exceptional physician who was blind to this source of light at any time since the days of Harvey would see it to-day, notwithstanding its greatly increased brilliancy.

It has seemed to me appropriate to say this much in explanation of the emphasis laid by previous speakers on the subject of the utility of vivisection, but it is not my purpose to set forth the actual benefits secured by this method of investigation. This has already been done by Dr. W. W. Keen, Dr. H. A. Hare and other speakers, although none of these gentlemen would claim that he had been able to present a tithe of the debt which physiology and the healing art owe to the results of animal experimentation. Those of the public who wish fuller knowledge on this subject, and who care to read a larger part of the evidence which has led the vast majority of the most humane of professions to approve of vivisection I would refer to the recent book by Stephen Paget, F.R.C.S. Eng.—"Experiments on Animals. With an introduction by Lord Lister." (London, 1900.)

One other point before I pass to the examination of the bill before us: I shall be so bold as to remind the distinguished lawyers on the other side, who have to-day so recklessly charged those with cruelty who experiment on animals, that the legal definition of cruelty given by the "Century Dictionary" is: "An act inflicting severe pain and done with wilfulness and malice." Judge Hoar, in a Massachusetts case, says: "Pain inflicted for a lawful purpose and with a justifiable intent, though severe, does not come within the statute meaning of cruelty." (James M. Beck, of the Philadelphia Bar: The Legal Aspects of Vivisection, *Medical News*, 1890, lvi, p. 280.) While I do not deny that cruel experiments, in the sense of heedless causing of pain, have been made, I am convinced that they are very exceptional. The accusation of cruelty, when made, as it often is by our opponents, and has been made to-day, against experimenters on animals, as a class, is false and slanderous. In no other group of cases in which animals are made to suffer for the benefit of man is equal care exercised to avoid the infliction of needless pain. The difference is simply immeasurable between the solicitude in this regard and the quantity of actual suffering inflicted in scientific experiments on the one hand and, on the other, the heedlessness and the vast unnecessary amount of pain inflicted in the slaughtering, the sexual mutilation, the transportation, the poisoning, and the hunting, trapping and shooting of animals. On the one side hundreds, on the other millions of animals are concerned annually; on the one side a serious purpose to advance scientific knowledge and directly promote the healing art, on the other the satisfaction of appetite, often in a luxurious way, the exercise of some convenience or economy, the gratification of the desire for sport or of some whim; on the one side insensibility to pain secured by anesthetics, as a rule, whenever practicable, and this is so in the great majority of cases, on the other very little regard to the avoidance or reduction of unnecessary suffering.

In speaking on a former occasion of the self-sacrifice and benevolence of the members of the medical profession, your chairman justly said that no legislation should be enacted that would unnecessarily hamper them in their pursuit of useful knowledge, and he has to-day very properly asked that it shall be pointed out in what way the proposed legislation would interfere with useful experiments, with such experiments, for example, as those cited by Dr. Keen, Dr. Hare, and other speakers. It is asserted with much insistence by its advocates, that this bill is "moderate," "reasonable and wise," "restrictive and not prohibitive," "not an antivivisection measure," "does not impede in any way the proper use of animal experimentation," "goes to the farthest extreme of concession in the anxiety of its framers to yield to the wishes of scientific men so far as may be consistent with the principle of legal supervision," "concedes everything of utility." It is my especial purpose to examine these contentions in the light of the specific provisions of the bill, and I hope to be able to demonstrate to the satisfaction of the members of this Committee that this bill is unnecessary, is vague and contradictory in some of its provisions, places the entire control of a scientific method of investigation in the hands of laymen not qualified to exercise such arbitrary powers, absolutely prohibits important and useful experiments and can be administered so as to prohibit all experiments, surrounds the practice of animal experimentation with absurd and vexatious restrictions, and, if enacted into law, would inflict serious injury on the progress of science and medicine.

I have already traversed much of this ground in my letter to a former member of this Committee, the Hon. Arthur P. Gorman, printed as Senate Document No. 104, 55th Congress, Second Session, (also in THE JOURNAL, Feb. 15, 1898, p. 285), which I beg leave to offer for your consideration. I would also call your attention to other documents of similar purport, especially the letter of the Secretary of Agriculture, the Hon. James Wilson, printed as Senate Document No. 112, 55th Congress, First Session, that of Dr. Dabney, President of the University of Tennessee and former Acting Secretary of Agriculture, to the Chairman of the Committee on the District of Columbia, the Hon. James McMillan, and the recent letter of Dr. Woodward (THE JOURNAL, February 10, p. 381), the Health Officer of the District of Columbia, to the Commissioners of the District.

As Dr. Salmon has pointed out at this hearing, and as Dr. Woodward has shown in his letter, just referred to, there is no need for additional legislation restricting the practice of animal experimentation in the District of Columbia. The existing law permits only "properly conducted scientific experiments or investigations, which experiments shall be performed only under the authority of the faculty of some regularly incorporated medical college, university or scientific society." The bill before us attempts to define with considerable detail, what constitutes a properly conducted experiment, and with what success I propose presently to show. A commission of scientific experts would find it difficult, if not impossible, to prescribe with similar detail the proper conduct of all scientific experiments on animals, and most assuredly such experts have had no hand in the drafting of this bill. If it be asked, Who shall be the judge of the proper conduct of the experiments? I reply: In the first instance the scientific men who act "under the authority of the faculty of some regularly incorporated medical college, university or scientific society," then the governing bodies of these incorporated institutions, and in the final decision the courts, as provided by the existing law, and most certainly not, as proposed in this bill, the Commissioners of the District of Columbia, who have no special qualifications to judge of such a matter.

There is not a particle of evidence that abuse of animal experimentation has ever existed or is likely to arise in the District of Columbia or, if it should occur, of the inability of the present law to cope with it. I know that one can conjure up in his imagination horrible possibilities, to meet which no law would seem too severe, and that charges of atrocious cruelty are spread before the public by antivivisectionists with reckless disregard of the facts, but we court the fullest investigation, by any impartial body of men, of the actual conditions of animal experimentation in this District and in this country, and we are confident that such an investigation would show the groundlessness of these imaginings and the wantonness of these accusations. Before any such legislation as that embodied in this bill is recommended, in the face of the unanimous protests of the scientific and medical societies and of the great body of physicians of this country, it surely seems incumbent upon your honorable body to make such an official investigation as we have often asked for.

Although we are here to discuss this particular bill, and not the general subject of legislative restriction of experimentation on animals, I am free to confess that I consider the public opinion of the medical profession, which is as sensitive to actual cruelty as that of any "humane society," an efficient safeguard in this matter, and amply sufficient when combined, as it is here, with an adequate law. As has been said: "Probably the members of antivivisectionist societies do not believe that there is any such professional public opinion; but there is, and it is an effectual, though quiet, check on the few who need it. But if any influence from the outside could injure it, it would be the constant ignoring and denying of its existence. It is not generally found an incentive to honesty to tell a man: "you would be a thief if you could, and therefore I shall keep all my goods under lock and key when you are about, and have my eye on you when you don't expect it." Weak honesty grows strong when leaned upon; but even strong humanity, insulted and disbelieved in, may hear itself called callousness until it ceases to care for the charge. (Physiological Cruelty: or, Fact v. Fancy. An inquiry into the Vivisection Question. By Philanthropos. P. 100. London. 1883. This is the best book with which I am acquainted on the general subject of vivisection.)

If all that could be said against the legislation proposed in this bill were its needlessness, it might be allowed to cumber the statute books, with no charge against it more serious than meddlesomeness, albeit, to my thinking, that is not a slight charge. But this legislation is very far from being harmless. While it must be difficult for those unfamiliar with the methods and results of scientific inquiry and practical work in the directions touched by this bill to realize fully all of the ways in which the provisions of this complicated measure would hamper investigations of importance to mankind, enough can be made clear to any reasonable man to show that neither this bill nor anything like it should ever be enacted into law.

Of the many faults of this bill there is none more serious in principle or likely to be more hurtful in the actual working of the proposed legislation than that this bill puts in the hands of men, who need not be and are not likely to be physicians or men of science, arbitrary powers, requiring skilled knowledge in their use, concerning matters of the highest importance to medicine and biologic science and to the welfare of mankind. To the Commissioners of the District of Columbia, of whom two make a majority, is given uncontrolled power to determine by whom and where experiments shall be made, to disallow or suspend at any time permission once granted, to demand at stated times reports in any desired form or detail concerning the methods and results of experiments, which reports shall be published, and to be, in the last resort, the supreme judges as to whether a certain experiment will advance physiologic knowledge or knowledge "useful for saving or prolonging life or alleviating suffering," or will aid in the acquirement of "surgical experience." No provision is made for an appeal or a hearing on the part of any applicant or experimenter who may consider himself aggrieved. Of the partial exemption of officers of the Government and of division of authority with the President of the United States I shall speak later.

Nobody can foretell in what manner the commissioners will exercise these extraordinary powers if conferred on them. It lies entirely in their discretion to grant all licenses and certificates or to refuse all and thereby prohibit all animal experimentation in the District, except that conducted under severe restriction by officers of the Government. It can be confidently predicted that the antivivisectionists will use every political and other influence in their power to secure the appointment of commissioners committed to a policy hostile to animal experimentation. Physicians have other matters to attend to and rarely engage in political agitation. I know of no reason why either of the two eminent lawyers who have spoken to-day for our opponents should not be considered qualified for the office of Commissioner of the District of Columbia, but, entertaining the opinions on vivisection which they have expressed, how could they conscientiously grant a single license to experiment on animals? In whatever way the commissioners might exercise their uncontrolled discretion, whether they made the law mean much or little, one thing is certain: In matters requiring expert knowledge and of high importance to mankind, those who do not know would be put in supreme authority over those who know. This is a monstrously false and dangerous principle to embody in law. It needs knowledge, often a great deal of it, to do good, but none to hinder it.

It has been said that there is no more reason to object to the requirement of a license to experiment on animals than to that of a license to practice medicine. There are differences between the two cases, which I shall not pause to discuss, for this bill is not a simple licensing measure. To make the conditions of the two cases analogous, in accordance with the provisions of this bill, the law to license practitioners of medicine should provide that a body of laymen should determine the qualifications of applicants and grant the license to practice, that the practice of each licensee must be limited to certain specified localities, that the permitted manner of treatment should be prescribed with some detail, that certain therapeutic procedures should be prohibited, that each practitioner must report at stated times his methods and results, and the number of patients treated to the licensing body, which shall publish the reports, and that a body of inspectors with no statement as to their qualifications should keep the licensed practitioners under surveillance and should report from time to time the results of their observations. Manifestly absurd as such requirements as these would be if applied to the regulation of medical practice, they are scarcely less absurd when applied, as proposed in this bill, to the legal regulation of animal experimentation.

If I were to enter into a criticism of the smaller details of this complicated bill. I should inquire, among other things, why only certain professors in a medical school are accorded the privilege of signing an application for a license, why, for example, the professors of pathology and of physiologic chemistry are excluded, but it seems to me more important for my present argument to take up the larger defects of the measure.

The bill "for the further prevention of cruelty to animals in the District of Columbia," originally introduced in the Fifty-fourth Congress, placed the officers of the United States Government completely under the control of the Commissioners of the District in respect to animal experimentation, although the experimental work of the United States Bureau of Animal Industry concerns itself with the agricultural and stock-raising interests of the entire country. The subjection of Government officers to the authority of the District Commissioners in a matter of this kind is so manifestly improper that the bill, after several modifications, now exempts from the necessity of securing a license from the commissioners any "medical or scientific officer of the United States Government duly authorized by the head of a department." But the bill still provides that those officers of the Government who engage in animal experimentation must report to the District Commissioners twice a year on "the methods employed, the number and species of animals used, and the results of their experiments, in such form and with such further details as the said commissioners may require," and all these reports must be published. It is not the head of a department who is to make these reports, but such of his subordinates as may be engaged in experimental work. All of the other restrictions of the bill, some of which will require interpretation by the administrators of the law, also apply to the experimental work of the officers of the general Government, which work is therefore still placed to a considerable degree under the control of officials of the District of Columbia.

The present bill, in its recently amended form, requires "that every place for the performance of experiments on living animals shall first be approved by the Commissioners of the District and shall be registered in such manner as the said Commissioners may direct." In the previous bill the provision as regards registration of places was mandatory only for places of medical instruction. It will be noted that this provision applies to experiments on any living animal, invertebrate as well as vertebrate. This bill is the first which has ever taken under its protection mollusks, worms, insects and other invertebrates. This is really so absurd that it may be presumed to be the result of inadvertence, but, if so, it illustrates the lack of care in the construction of the bill.

The requirement that no experiment shall under any circumstances be made except in a place previously approved and registered is a very injurious one. A number of instances might be cited of the ways in which this requirement may interfere with useful experimentations and even involve some danger to human beings and animals. An emergency may readily arise in which some inoculation test for diagnostic or other purposes can most advantageously be performed where the material obtained directly at autopsy or from a patient or sick animal is directly at hand. In some instances absolutely fresh material, possibly inoculation directly from one animal to another, or from a human being to an animal, is essential for the success of an experiment. There may be considerable danger involved in the transportation of some highly virulent material, perhaps for a considerable distance, to a registered place, and there may be good reason for not taking infectious material away from a locality already infected and introducing it into an uninfected registered place. To confine the work of an experimenter absolutely and under all circumstances to the particular place for which he has secured a ticket of registration is a hard and unnecessary restriction, and in introducing this provision the new bill has gone beyond its predecessors and beyond the British law.

Undoubtedly the provision of this bill, as of all antivivisection bills, which is dearest to the heart of the antivivisectionist, is that for the official inspection of experiments on animals. The bill provides (Section 6): "That the President of the United States shall cause all places where experiments on living warm-blooded animals are carried on in the District of Columbia to be, from time to time, visited and inspected without previous notice for the purpose of securing compliance with the provisions of this Act; and to that end shall appoint four inspectors, who shall serve without compensation and who shall have authority to visit and inspect the places aforesaid, and who shall report to the President of the United States from time to time the results of their observations therein, which shall be made public by him."

It will be observed that this section introduces a second authority in the administration of this law. The Commissioners of the District grant the licenses of persons and places, while the President of the United States appoints the inspectors and receives their official reports. This division of authority would not seem conducive to the smooth working of the law and might readily lead to serious conflicts in its two-headed administration, especially if one head be friendly and the other hostile to experimental investigations.

But the monstrous evil of the provision regarding inspectors is that not a word is said as to the need of any special qualifications on the part of those who are to scrutinize and report on the experimental work of physicians and scientific men. The duties of these inspectors, according to the law, will require them to base their reports on such matters as whether animals are completely anesthetized, whether movements of an animal are manifestations of conscious pain or only of reflex action whether experiments are conducted by competent persons and in a proper manner, and whether they are useful for the particular purposes specified in this bill, and fall under the categories of permitted experiments. Surely some knowledge of physiology and some appreciation of the needs of medicine and surgery are required for the performance of the remarkable and responsible functions of these inspectors.

The bill originally introduced provided that this inspection should be by an agent of the Washington Humane Society, a notoriously antivivisectionist society, which claims the responsibility for this bill. It can not be doubted that this Society and antivivisectionists in general will claim and in all probability will secure representation among the inspectors. It would be quite within the power of even one energetic and officious inspector, without physiologic knowledge and opposed, as most antivivisectionists are, to all investigations requiring experimentation on animals, to make the conditions of experimental work simply intolerable. Anybody who has serious and legitimate business to attend to has a right to object to constant intrusion and disturbance, and work requiring delicate manipulations and undivided attention can not go on under such interruptions. When to this nuisance is to be added the publication of official statements concerning difficult matters of which the observer is not qualified to judge, I submit that before you impose on experimenters this system of inspection you should be convinced that very great abuses are to be corrected and can be corrected by no procedure of a less drastic nature.

It is utterly misleading to draw any analogy between this sort of inspection and the inspection of banks and insurance companies, and it is a libel on common sense to assert, as is done by advocates of this measure, that fear of the exposure of wanton cruelties moves experimenters to object to any such system of inspection as that proposed in this bill. It is not true that secrecy surrounds the practice of animal experimentation. Reports of experiments are published in detail. Any qualified person has free access to the laboratories where such experiments are made, but to throw them wide open to the public is open to the same kind of objections as would be similar publicity for surgical operations. The antivivisectionists are fond of quoting from an address by Dr. Parvin, delivered in 1891, but I have never known them to cite in their writings, except in garbled form, the following sentences from this address: "Should the law restrict the performance of vivisection? I think it ought, chiefly as an expression of public sentiment and for the moral effect, for violations of its provisions could usually only be discovered by a system of espionage, by the employment of detectives, of spies and informers, utterly alien to our system of government, and who are as a rule abominable." This quotation in antivivisectionist publications always, I believe, stops short with the first third of the last sentence.

(To be continued.)

Five medical professors at the Moscow University have served their quota of 25 years and now retire.

Therapeutics.

Quinin in Malaria.

The following clinical note is from Dr. Ballard, health officer of Natchez, Miss:

In the simple intermittent fever quinin is undoubtedly a specific; but when cured, and no change is made in the environments—as with the cotton planter of the lowlands on both sides of the river—reinfection is certain to take place, and in these cases quinin, in usual doses, is extremely dangerous. All cases of hematuria of malarial origin occurring under my observation (in whites) have been due to reinfection and followed the protracted use of quinin. One or two grains dissolved in half a dram of dilute phosphoric acid is a benefit in preventing a second invasion, and is a tonic of superb power. I use something like the following:

℞.	Quinæ sulph.	ʒii
	Tinct. ferri chloridi	ʒi
	Acidi phosphorici	℥iv
	Spts. *frumenti*, q. s., ad	℥viii

M. Sig. Teaspoonful in one-third glass of water at meals.

Now as to the treatment of hematuria, when found. I use ergot in half-dram doses every three or four hours, and strychnin hypodermically in full doses. I flush the bowels with the hyposulphite of sodium, and I have found an emulsion of turpentin of service in some cases. If the patient is restless and fretful, an enema of sixty grains of potassium bromid is of unquestioned utility.

The so-called typhomalarial fever is a malarial fever in which quinin is entirely useless, save in small doses as a tonic. I have never seen a case of intermittent fever that would not yield to an acid solution of quinin, if a cathartic is used to begin treatment. For this I use:

℞.	Hydrarg. chloridi mitis	gr. x
	Podophyllin	
	Ipecac, āā	gr. i
	Ext. nucis vomicæ	gr. ss
	Ext. hyoscyami	gr. iv
	Sodii bicarb.	gr. xi

M. ft. capsulæ No. vi. Sig. One hourly until two are taken, and repeat every third day.

Experimentia docet. We do *not* use quinin in the hemorrhagic forms of malarial fever, and are now successful, whereas we were failures with quinin. —*Therap. Gazette.*

Suppuration of the Ear.

Lanoix, in *Rev. Medicale*, states that picric acid, being not only analgesic and antiseptic, but also keratoplastic, he was led to employ it in suppuration of the ear, when it is sought especially to cauterize the secreting membrane of the tympanum. He has attained unhoped-for benefits from its use. He uses the following solution:

℞.	Acidi picrici	gr. ii
	Alcoholis—90 per cent.	m. xlv
	Aquæ destil	fl℥v

M. The solution is left for some minutes in contact with the ear. The treatment induces desquamation of the tympanum and of the meatus, which calls for frequent cleansings. This action of picric acid contraindicates its use in cholesteatoma. —*N. Y. Med. Jour.*

Treatment of Migraine.

Lyon (*Revue de Therapie*, February 1; *British Medical Journal*, March 24, "Epitome") treats the attack of migraine with antipyrin—unless there is some coexisting renal disease—given in Vichy water or in cachets with an equal quantity of sodium bicarbonate or in the granular effervescent form. If there is gastric intolerance the drug may be given in solution as an enema. Sometimes a combination of acetanilid, phenacetin and quinin valerianate is more efficacious. Sodium salicylate, methylene-blue and caffein, either alone or combined with sodium benzoate may be recommended. If caffein be rejected by the stomach it may be given hypodermically. Aconitin may be tried in minute doses. The prophylactic treatment is both dietetic and hygienic. The patient should eat moderately and abstain from all alcoholic drinks, in fact, should take water only. He should avoid all indigestible articles of diet and live principally on milk and vegetables. Tobacco should be interdicted and a sedentary life avoided. Errors of refraction should be corrected and massage with suitable baths tried. Alkaline baths are of especial value for the rheumatic and the gouty. For the neurasthenic the use of phosphates alternating with arsenic, either with or without iron, is a promising plan of treatment.

Syphilitic Alopecia.

Gaucher, in *Riforma Medica*, recommends the following: The hair should be kept short, and frequent applications of the following lotion made to the head:

℞.	Hydrarg. chloridi corrosivi	gr. iii
	Chloralis	gr. lx
	Resorcin	gr. xxx
	Olei ricini	gr. xv
	Alcohol (at 90 degrees)	ʒl

M. At the same time friction should be made with the following ointment:

℞.	Calomel	gr. xlv
	Vaselini	ʒxv
	Acidi salicylici	gr. iv

Or, the following:

℞.	Precipitated sulphur	gr. xlv
	Vaselini	ʒxv

This latter ointment is to be prepared when the alopecia is accompanied by seborrhea and pityriasis of the hairy scalp.

—*N. Y. Med. Jour.*

Treatment of Burns.

According to the *Jour. de Méd. de Paris* of Nov. 19, 1899, the following treatment may be instituted in cases of burns:

Compresses saturated with a solution of potassium nitrate may be applied, the solution being of the strength of 5 per cent. This preparation relieves the pain, and prevents a rise of temperature. The patients may be placed in a warm bath containing this material. If the well-known carron-oil or linimentum calcis is employed, it is suggested that carbolic acid in the strength of 1 per cent. should be added to it, or that thymol in the strength of 5 per cent. should be applied; or vaselin containing 10 per cent. of boric acid may be used. The following formula is said to be employed by Réclus.

℞.	Vaselini	℥ii
	Acidi borici	ʒi
	Antipyrin	ʒi
	Iodoformi	gr. xiii

Another one is:

℞.	Vaselini	℥iii
	Essence of thyme	
	Essence of geranium	
	Essence of origanum, āā	gr. iv
	Sodium naphtholate	gr. xv to xlv

Other formulæ are as follows:

℞.	Mentholi	
	Iodoformi, āā	gr. xv
	Glycerini	℥iii
℞.	Cocaini	gr. iv
	Salol	ʒi
	Vaselini	℥i
℞.	Europhen	gr. xxx
	Lanolini	
	Vaselini, āā	℥ii
℞.	Orthoform	gr. xlv
	Vaselini	℥i

All these ointments are intended to prevent suppuration and to relieve pain and burning.

Another method of treatment is to apply bismuth subnitrate and other drying materials in powdered form, particularly where the burn is wet and bleeding.

Still another application which is excellent where it is desired to favor cicatrization in burns which have existed for some little time is the following prescription:

℞.	Ichthyol	gr. xv—xxx
	Magnesii carbonatis	℥iii
	Zinci oxidi	℥vi
	Thiol	
	Talc.	
	Bismuthi subnitratis, āā	℥i

M.

So far as general treatment is concerned, [illegible] ld receive opium to relieve the [illegible] f [illegible] eous injections of morphin in of suppuration, if it occurs, the system should be supported by means of tonics, such as quinin, kola, and iron.

—*Therap. Gazette.*

Treatment of Hemorrhoids.

The following prescriptions are given in *La Presse Médicale:*

℞.	Chrysarobin	gr. i
	Iodoformi	gr. ss
	Extract belladonnæ	gr. 1/8
	Cacao butter	gr. xxx

M. ft. One suppository.

Two or three of these suppositories are to be inserted into the bowel each day, or, instead of these suppositories, the following ointment may be used:

℞.	Chrysarobin	gr. xii
	Iodoformi	gr. v
	Ext. belladonnæ	gr. x
	Vaselini	℥ss

M. Sig. Apply locally several times a day.

If small indurated projections of skin and mucous membrane are present, with a good deal of induration around the part, the following may be employed:

℞.	Potassii iodidi	gr. xv
	Iodini	gr. ii
	Glycerini	℥i

M.

This is to act as a local alterative. Later, if irritation is absent, a stronger solution may be employed, composed of:

℞.	Potassii iodidi	gr. lxxv
	Iodini	gr. xv
	Glycerini	℥iss

M.

Small doses of distilled extract of hamamelis may also be given internally with each, and continued for several months.

Sciatica.

Siegrist, of Zurich, has found the application of hot moist compresses to afford striking relief in this affection, says the *New York Med. Jour.* A piece of flannel is placed in very hot water, then wrung out so that it does not drip. This can be done conveniently by wringing it inside a towel in such a way as to protect the hands. The flannel is then laid along the thigh of the patient—if the skin is very sensitive a layer of flannel is placed under the compress—and the whole covered with several thick layers of dry flannel. The compress is changed in about ten minutes, and the process kept up for an hour or two at a time, and repeated several times a day. The value of these fomentations in many painful affections is well known to students of hydrotherapy, but is not sufficiently recognized by physicians in general. The treatment demands considerable time, and must be skilfully executed in order to gain the desired results.

Alterative.

℞.	Arsenici chloridi	m. i
	Ammon. chloridi	ʒii
	Tinct. ferri chloridi	ʒiv
	Hydrarg. chloridi corrosivi	gr. iss
	Syrupi	℥iii
	Aquæ, q. s. ft.	℥vi

M. Sig. One teaspoonful three times a day.

Syphilis.

℞.	Hydrarg. protoiod	gr. v to x
	Strych. sulph.	gr. ss
	Ferri sulph.	gr. xx
	Pepsin pulv.	gr. xl

M. ft. in cap. No. xx. Sig. One capsule after each meal.

—*Dr. J. D. Thomas: Intern Med. Mag.*

Sporadic Dysentery.

℞.	Pulv. ipecac et opii	gr. xxx	2
	Bismuthi subnitratis	ʒiv	16
	Salol	gr. xxx	2

M. et ft. Chart No. xii. Sig. One every hour or two.

—*J. M. Anders.*

Ointment for Gonorrheal Rheumatism.

℞.	Salol	8 parts
	Menthol	5 parts
	Ether	8 parts
	Lanolin	60 parts

M.

Nephritis in Children.

℞.	Liq. ammon. acetatis	℥i
	Tinct. digitalis	
	Spiritus chloroformi, āā	ʒi et m. xx
	Aquæ dest., q. s., ad	℥viii

M. Sig. Tablespoonful three times a day to children from 6 to 10 years old. —*Ashby: Med. Record.*

Gastralgia.

Dr. Saundby, of Mason College, Birmingham, recommends the following method: The patient is put to bed, receives for sole nourishment 1 fluid ounce of a mixture, in equal parts, of milk and lime water every hour, the quantity to be gradually increased to 4 fluid ounces every hour as the symptoms disappear. At the same time, two tablespoonfuls of the following mixture are given three times a day:

℞.	Magnesii sulphatis	ʒvi
	Ferri sulphatis	gr. xv
	Acidi sulphurici diluti	ʒiiss
	Aquæ menthæ pip.	℥viii

The rapid improvement under this régime soon permits the use of a small quantity of bread and scraped meat, then solid foods, and finally recovery ensues. —*Merck's Archiv.*

Medicolegal.

Dying Declarations Touching Accidents.—The Supreme Court of Louisiana points out, in the case of Marler vs. the Texas Pacific Railway Company, that the circumstances under which dying declarations are made, with a view to testimony in criminal cases, differ greatly from those where they are made with reference to future civil proceedings for damages occasioned by the injury causing death. In the one case the party making the declaration has no personal interest in making a false statement, and would be actuated in doing so only by hatred or malice, while in the other relief for the family he is leaving behind him might furnish a strong motive for giving a wrong version of the facts of the occurrence. Hence the court holds that such declarations are not admissible in evidence in a civil action brought to recover damages, though made under a sense of impending death or even if made to the physician called in to minister to the party particularly when not elicited to aid him in treating the case.

Statements of Experts are Advisory Only.—This is the view taken by the Supreme Court of Missouri. For example, in the malpractice case of Hoyberg vs. Henske, the jury was told, in effect, that in determining the question as to whether or not the defendant exercised such skill and care of the plaintiff's broken arm as, under the law, he should have exercised, it was not bound by the opinion of expert witnesses, but had the right to disregard all or any part of such opinions as appeared to it to be unreasonable. In this instruction the supreme court says that it fails to recognize the vice which counsel sought to point out. It is the established law, as declared by this court, it goes on to state, that, where experts are called to testify, their statements are not to be considered as evidence of facts, but are of an advisory nature, and they are permitted to express opinions because of the peculiar knowledge they possess. But, the court continues, juries are in no wise bound to blindly accept their ideas, but, after receiving the advice of experts, are permitted to use their own judgment in passing on the things concerning which the opinions are given, and they are necessarily permitted to disregard the testimony of such experts as may appear to them unreasonable. Were it not so, the court thinks that, because of the widely diversified notions and wholly different results arrived at by separate individuals, even when forming conclusions on the same facts and circumstances, juries would be wholly at sea, and to refuse to permit them to be their own judges of what is reasonable and what is unreasonable would operate as a failure of the purposes for which they are called in this class of cases. Nor does the court appreciate the force of the criticism that the instruction under discussion was defective in that it failed to tell the jury that, in order to disregard the opinions of the experts presented to them, they must do so solely on some other facts and circumstances in the case drawn out by the testimony. It maintains that the right of a jury to reject the mere opinion of an expert or experts is not more restricted than the right to reject the testimony of a nonexpert upon a question of fact. Juries are required, in cases of this character, to apply their own experience, knowledge, and judgment, and the issue is to be determined, not merely by the opinion of experts, but, further, by the exercise of their own judgment of the facts on which the opinions are given. Finally, a verdict of $5500, the court holds not excessive for malpractice, where a child 4 years of age broke one of the bones of the left arm, just above the elbow, by a fall from a lounge, and the treatment was such that the arm festered and parts of the flesh came out and then left the arm without strength from the elbow down.

Communication About Medical Examiner.—Omitting here the names, a medical director of a life insurance association wrote this letter to an agent at a certain place, with reference to the medical examiner there: "I have before me the application of ——. This application shows on the face of it to be a forgery of his signature, and it is written by Dr. —— instead of the applicant. He has fallen down in his undertaking to imitate the handwriting of the applicant, by his misspelling the name. We have returned the application to the doctor, and given him to understand that it must be corrected at once; and you are hereby notified that in the future no more examinations will be accepted, when made by Dr. ——. We will appoint another physician at that place, and will notify you of the appointment of same. We have no longer any confidence in Dr. ——, and, as above stated, we can not accept any more examinations made by him." The doctor referred to in some way learned of the letter, and sued the medical director and association for libel. On the trial the action was dismissed as to the medical director, and the doctor obtained a verdict and judgment for $2300 against the association. But the judgment of the district court is reversed by the Supreme Court of Iowa. The jury was instructed that the letter of communication, made and published in the manner and under the circumstances under which the same was made and published, was not a privileged communication, and the circumstances under which the same was made and published did not justify the association in so making and publishing the same. More than that, it was instructed that the letter was libelous in and of itself, and that the only matter to be considered was the amount of damages. Not so, however, thinks the supreme court. It holds that the addressee, as soliciting agent, was entitled to know who was the accredited medical examiner of the association at the town where he was making applications. The company also had the right to inform its soliciting agent of the discharge of its medical examiner in the locality where the soliciting agent was operating. The occasion, it therefore holds, Nichols vs. Eaton, was undoubtedly privileged, and it was the duty of the court to so instruct the jury. That being established—that the occasion was privileged, and that the publication was about a matter in which both parties had an interest, excess of statement the supreme court pronounces material only as bearing on the question of malice—a question of fact for the consideration of the jury.

Who May Testify as to Insanity.—The Court of Appeals of Kentucky says, in the case of Abbott vs. Commonwealth, that it is well settled in that state that persons who are not experts, but by association and observation have had an opportunity to form an opinion as to the sanity of a person, may testify to that opinion; giving, also, the facts on which the opinion is based, so that the jury may judge for themselves what weight the opinion is entitled to. The reason it gives is that insanity if often shown by a flash of the eye, an expression of the face, a movement of the muscles, or a number of slight circumstances which, while they may produce a conviction in the mind of the observer, can not, in many cases, be reproduced before the jury as they were exhibited to the eye of the witness, so that, if testimony of this sort were not allowed, great injustice would in many cases be done. The judgment of a person's intimate friends and acquaintances as to his soundness of mind it holds is therefore always competent in cases where the insanity is pleaded as a defense to crime. Moreover, the courts says that it is not necessary that a medical witness should claim to be an expert on the subject of insanity to entitle him to give an opinion as an expert on a hypothetical case. Any practicing physician, doing a general practice, who has studied the subject of diseases of the mind, with other forms of disease, it holds, may testify on the hypothetical case, on the ground that, as insanity is a disease, one who is skilled in detecting and treating diseases is competent to give an opinion, the extent of his learning and experience going alone to his credibility. Yet it manifestly does not consider every physician competent to give an opinion as an expert on the question of insanity, as it holds, right in this connection, that the testimony of a certain doctor was properly rejected, as it did not appear that he had given the subject of insanity a sufficient study to entitle him to speak as an expert on the hypothetical case put to him, though it does not explain any further just what his qualification or disqualification was.

Both May Testify in Abortion Case.—A husband sued a physician for damages for producing an abortion on his, the plaintiff's, wife. This was in Missouri, where the statute modifying the general rule of the common law prohibiting a married woman in testifying in behalf of her husband could not be said to include a case of this character. There, too, a physician or surgeon is prohibited from testifying concerning any information which he may have acquired from any patient while attending him or her in a professional character, and which information is necessary to enable him to prescribe for such patient as a physician, or to do anything for such patient as a surgeon. Naturally, therefore, there was objection made to the wife being allowed to testify in behalf of her husband. Likewise, objection was made, on the other side, to the physician testifying, in his own behalf, concerning information which he acquired from the wife of the plaintiff while attending her in a professional character, by an examination of her body, and from conversation with her, which was necessary, according to his testimony, in order to enable him to treat her; as well, also, as to the conversations had between himself and her with respect to her condition, and the treatment necessary in her condition—what he said to her, etc. Taking up this last objection first, the Supreme Court of Missouri, Division No. 2, points out, Cramer vs. Hurt, that the facts with respect to the condition of the wife, the doctor's treatment of her, and the facts obtained from her with respect to her condition, were within the exclusive knowledge of her and himself. No other person knew, of his own personal knowledge, anything about them. Hence, while it must be understood that such evidence can not be admitted, merely because other evidence of the facts can not be obtained, in a suit against a physician by the husband for damages, the court holds that, where it is clear that no other person besides the physician and the wife knows anything personally about the facts, and the proof of such facts is necessary in sustenance of his defense, it is no error to permit him to testify to such facts in order to prevent injustice being done. But it must, the court continues, for the same reason, follow that the wife is a competent witness for her husband, notwithstanding at common law, as a general rule, a married woman is incompetent to testify in behalf of her husband, and the state statutes may not have removed the disability as to such a case as this. Moreover, the court thinks that the wife is a competent witness in such a case on general grounds of public policy, for, it says, if it be known that a married woman is a competent witness for her husband in a suit for damages by him against a physician who produces an abortion on her without the consent of her husband, in consequence of which her health is injured, and he is deprived of her services, to which he is entitled by law, and expenses are entailed on him in her nursing and for medical treatment, it might, to some extent, put a stop to such revolting and unnatural practices. However, the court does not consider that the privilege, which belonged to the wife personally, was waived by her being offered as a witness by her husband, nor by his bringing an action of this kind.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical Record (N. Y.), May 5.

1.—*Perforating Duodenal Ulcers. Robert F. Weir.
2.— Preliminary Report on New and Simple Method of Sterilizing Catgut. Charles A. Elsberg.

Medical News (N. Y.), May 5.

3.—*Medical School of the Future. H. P. Bowditch.
4.— Truth in Medicine. E. G. Janeway.
5.—*Perforating Duodenal Ulcers. (*Continued.*) Robert F. Weir.
6.—*Present Status of Rectal Surgery. Joseph M. Mathews.

Philadelphia Medical Journal, May 5.

7.—*Medical School of Future. H. P. Bowditch.
8.—*Adaptation of Pathogenic Bacteria to Different Species of Animals. Theobald Smith.
9.—*Some Physiologic Methods and Means Employed by Animal Organism in its Continual Struggle Against Bacteria for Maintenance of Life and Health. S. J. Meltzer.
10.—*Relation of Bacteriology to Medicine. Richard C. Cabot.
11.—*Bacterio-Therapeutics, with Especial Reference to Tuberculosis. Edward R. Baldwin.
12.—*Sociologic Status of the Physician. Clarence John Blake.
13.—*Nephrectomy for Large Aneurysm of Right Renal Artery, with Résumé of Twelve Formerly Reported Cases of Renal Aneurysm. W. W. Keen.
14.—*President's Address at Decennial Convention for Revision of U. S. Pharmacopeia. H. C. Wood.
15.—*Recent Advances in Knowledge Concerning Etiology of Malarial Fever. William Sydney Thayer.

Boston Medical and Surgical Journal, May 3.

16.—*Medical School of the Future. H. P. Bowditch.
17.—*Perforating Ulcer of Duodenum. Robert F. Weir.
18.—*Ideal Ration for Army in Tropics. (*Continued.*) Edward L. Munson.

New York Medical Journal, May 5.

19.—*General Remarks on Pathology and Treatment of Stricture of Urethra. Charles Greene Cumston.
20.—*Nitrous Oxid; Ether; Chloroform. (*Concluded.*) S. Ormond Goldan.
21.—*What is Basis of Modern Medical Conception? J. Homer Coulter.
22.—*Appeal for Systematic Treatment of Consumptive Poor. John F. Russell.
23.—*Management of Hair During and After Fevers. George Thomas Jackson.
24.— Effeminate Men and Masculine Women. William Lee Howard.
25.—*Practical Points in Ether Anesthesia. C. Floyd Burrows.

Cincinnati Lancet-Clinic, May 5.

26.— In Memoriam. John A. Murphy.
27.—*Ophthalmic Memoranda. David DeBeck.

Medical Review (St. Louis, Mo.), May 5.

28.—*Occurrence of Mould in Stomach and Its Probable Significance Max Einhorn.
29.—*Christopathy, Bibliopathy and Christian Science. C. H. Hughes.
30.— Report of Librarian of St. Louis Medical Library Association for Year Ending April 25, 1900. F. J. Lutz.

Medical Age (Detroit, Mich.), April 25.

31.—*Tricuspid Regurgitation. W. C. Huntington.
32.— Treatment of Venereal Ulcers. N. E. Aronstam.
33.—*Relation of Eye-Strain to Epilepsy, Insanity and Allied Conditions. Thomas P. Satterwhite.

Pediatrics (N. Y.), April 15.

—*Nephritis in Childhood, Especially that Occurring in the Course of Malaria. Dr. Moncorvo.
—*Care of Premature and Feeble Infants. S. W. Ransom.
36.—*Some Reasons why Tuberculosis Spreads More Rapidly among Cattle than in Human Race. Walter W. Gardiner.

Medical Fortnightly (St. Louis, Mo.), April 10.

37.— Short Clinic on External Urethrotomy. Reginald Harrison.
38.—*Etiology of Beri-beri. Albert S. Ashmead.
39.— Treatment of Venereal Lesions. Mayer Shoyer.

Virginia Medical Semi-Monthly (Richmond), March.

40.— Some Recent Cases of Mastoiditis with Remarks. Joseph A. White.
41.— Gonorrheal Urethritis in Male. Chas. A. Labenberg.
42.— Medico-Religious Society. W. T. Parker.
43.— Puerperal Eclampsia. William Hoskins.
44.— Normal Saline Solution of Buffalo Lithia Water Used by Rectal and Subcutaneous Injection. Benj. K. Hays.

Columbus Medical Journal, April.

45.—*Obstipation-Hypertrophy of Rectal Valve. Thos. Charles Martin.
46.— Examination and Treatment of Ulceration of Abdominal Rectum and Sigmoid Flexure, with Comparison of Old and Modern Methods. Sterling B. Taylor.

American Journal of the Medical Sciences (Philadelphia), May.

47.—*Analysis of Fifty-one Cases of Pneumothorax. John Lovett Morse.
48.—*Acute Pneumonic Form of Tuberculosis. Arthur W. Elting.
49.—*Senile Bronchitis. Reynold Webb Wilcox.
50.—*Case of Multiple Neuro-Fibromata of the Ulnar Nerve. W. W. Keen and William G. Spiller.
51.—*Differential Diagnosis of Ectopic Gestation. With Report of Cases. Edward P. Davis.
52.—*Two Cases of Tabes Dorsalis in Negroes—Husband and Wife. Albert P. Francine.
53.—*Clinical Aspect of Plague, with Illustrative Cases. (*Concluded.*) Frank G. Clemow.
54.— Critical Summary of Literature on Surgery of Stomach. Charles H. Frazier.

Toledo Medical and Surgical Reporter, May.

55.— Pure Food, Pure Drugs—How They May be Obtained. C. H. Reed.
56.— Fads and Fancies. Herbert E. Smead.
57.— How Electricity Becomes a Remedy. H. L. Hall.
58.— Treatment of Chronic Urethritis with Clinical Reports. Eugene C. Underwood.

Post-Graduate (N. Y.), April.

59.— Case of Restoration of Base of Bladder and Urethra, by Plastic Surgery. Bache McE. Emmet.
60.— Ante-partum Diagnosis. George L. Brodhead.
61.—*Clinical Value of Newer Methods in Treatment of Puerperal Sepsis. John O. Polak.
62.—*Palliative Treatment of Carcinoma Uteri. Hermann J. Boldt.
63.— Cystitis in Female and Its Management. Abram Brothers.
64.— Retrospect of Forty Cases of Operative Gynecology. George G. Ward, Jr.
65.— Obstetric Aphorisms. C. A. Von Ramdohr.
66.— History of Case of Mild Tetanus Following a Slight Operation for Fissures of Anus. Bache McE. Emmet.
67.— Clinical Notes on Reflexes of Uterine Disease. Bache McE. Emmet.
68.— Douglas' Cul-de-sac Lacerated during Labor. Stephen P. Truex.
69.— Lap-Suture in Abdominal Surgery. William E. Butler.
70.—*Intrauterine Implantations of Ovary. A. Palmer Dudley.

Clinical Review (Chicago), May.

71.—*Effect of Strong Heat in Pruritus—its Use by Napoleon and Others in Domestic Practice. Edmund Andrews.
72.— Spastic Spinal Paralysis; Secondary Descending Sclerosis. Henry M. Lyman.
73.— Clinical Lectures on Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
74.— Deformities of Infantile Paralysis. John Lincoln Porter.
75.— Gastric Ulcer and Uterine Retrovérsion; Hematocele; Uterine Fibroid; Biliary Calculi; Pyosalpinx; Removal of Tubes: Rectal Fistula; Carcinoma of Uterus. A. J. Ochsner.
76.— Clinical Lecture on Obstetrics and Gynecology; Concealed Hemorrhage. Denslow Lewis.

Providence Medical Journal, April.

77.— Effects of Chemical and Physical Influences on Development of Embryo. A. D. Mead.
78.— Résumé of Six Months' Service in Infants' Department of Providence Lying-in Hospital. H. G. Partridge.
79.— Headache. George Carroll Smith.
80.— Brief Description of New Wing at Rhode Island Hospital. John M. Peters.
81.— Gunshot Wounds of Orbit. V. L. Raia.
82.— Case of Empyema of Frontal Sinus. F. T. Rogers.
83.— Fatigue in School Children. Alfred M. Merriman.

Pennsylvania Medical Journal (Pittsburg), April.

84.—*Some Drugs in Enteric Fever. A Therapeutic Study. J. C. Wilson.
85.—*The Alleghenies for Our Tuberculous. Chas. F. Spangler.
86.—*Prophylaxis and Management of Phthisis. Joseph Forrester.
87.— Neurasthenia. Thomas Wray Grayson.
88.— Valvular Disease of Heart. A. M. Miller.
89.— How I Treat an Ordinary Fracture. John C. Sullivan.
90.— Case of Intussusception of Bowel. Ellis Phillips.
91.— "Special Inflammation of Uterus and Adnexa." John Milton Duff.

Kansas City Medical Index-Lancet, April.

92.— Surgical Technique. Milo B. Ward.
93.— Formaldehyde. Virginius W. Gayle.
94.—*Relation of Uric Acid to Migraine. John A. Lichty.
95.— Tissue Building and Nerve Toning in Tuberculosis. William J. Maybury.
96.—*Relative Curability of Nervous Diseases. John Punton.

Southern Practitioner (Los Angeles), April.

97.—*Report of Second Operation for Tubal Pregnancy on Same Patient within a Year. E. R. Smith.
98.— Ligature versus Clamp and Cautery in Treatment of Internal Hemorrhoids. Wellington Burke.
99.— Ancient and Modern Therapeutics. E. Henderson.
100.— Review of Mrs. Eddy's Book on Science and Health. P. J. Parker.

Interstate Medical Journal (St. Louis, Mo.), April.

101.— President's Address before Tri-State Medical Society at St. Louis, Mo., April 4, 1900. O. Beverly Campbell.
102.—*Treatment of Acute Articular Rheumatism at Mt. Sinai Hospital, New York City. L. A. S. Bodine.
103.—*Diagnosis of Pneumonia, with Report of Unusual Cases. Louis H. Behrens.
104.— Treatment of Arm Presentation. Denslow Lewis.
105.— Analytic Diagnosis of Abdominal Tumors. (*Continued.*) Byron Robinson.
106.— Antitetanic Serum in Treatment of Case of Acute Traumatic Tetanus. David C. McVail.

Texas Medical News (Austin), April.

107.— Measles: Value of Koplik's Sign. J. S. Lankford.
108.— Report of Cases. O. L. Norsworthy.
109.— Infant Feeding. R. W. Knox.

Journal of Tuberculosis (Asheville, N. C.), April.

110.— Necessity for Isolation and Hospital Care for Poor Consumptives. J. C. Wilson.
111.— Work Being Done Through Private Charity in Case of Consumptive Poor. W. N. Ashman.

112.—*Latency or Cure of Pulmonary Tuberculosis. Karl von Ruck.

Memphis Lancet, April.

113.— Case of Advanced Extrauterine Pregnancy. Operation Seven Weeks after Completion of Term. R. B. Maury.
114.— Why I Use Pepto-Mangan "Gude." An Experimental Demonstration. Wm. Krauss.
115.— Report of Five Cases of Typhoid Fever in Infancy and Early Childhood. Edward D. Mitchell.
116.— Chronic Abscess of Liver, with Report of Case. M. Goltman.
117.— Two Cases of Hysteria with Prominent Eye Symptoms. E. C. Ellett.

Medical Register (Richmond, Va.), March.

118.— Arthritis Deformans. John D. Thomas.
119.—*Further Report on Diaphoresis in Pneumonia. Clifton M. Miller.
120.— Report of Case of Fracture of Skull. Frank M. Cunningham.
121.— The Druggist. F. M. Reade.
122.— Report of Eight Cases Demonstrating Improvement in Hearing Obtained by Removal of Portion of Middle Turbinated Bone. J. P. Davidson.
123.— Aseptic Confinement. Charles R. Robins.

Southern Practitioner (Nashville, Tenn.), May.

124.— Address to Graduating Class of Medical Department of University of Tennessee. William D. Haggard, Jr.
125.— Intestinal Obstruction. (*Continued.*) Richard Douglas.
126.— Suggestions of Causative Relationship Between Uricacidemia and Urticaria, with Report. Halcyon A. Wilbur.

University Medical Magazine (Philadelphia), April.

127.—*Plantar or Toe Reflex. Babinski's Symptom. Horatio C. Wood.
128.—*Dermoid Cystoma Developing in Pelvic Connective Tissue, with Report of Case. Henry D. Beyea.
129.— Hernia of Vermiform Appendix. John H. Jopson.
130.— Case of Large Aneurysm of Left Common Carotid Artery and of Aorta Treated by Distal Ligation and by Tufnell Method. E. R. Edson.
131.— Diagnosis of Chlorosis and Chloro-Anemia. Alfred Stengel.
132.— Large Dermoid Cyst of Ovary in Child of Seven Years. James Herbert McKee.
133.— Recovery of Vision by Iridectomy, with Removal of Lens-Capsule and *Lens-Débris in Case of Blindness of More than Thirteen* Years' Duration. Charles A. Oliver.

Kingston Medical Quarterly (Kingston, Ont.), April.

134.— Clinical Report of Case of Infective Endocarditis. Geo. Hodge.
135.— Rotunda Hospital. Jennie G. Drennan.
136.— Bubonic Plague. W. T. Connell.
137.— Case of Appendicitis. E. Ryan.
138.— Eye Lesions in Paranoia and Paretic Dementia. J. C. Connell.

Seaboard Medical and Surgical Journal (Norfolk, Va.), April.

139.— Christian Science from Scholarly Standpoint. C. A. F. Lindorme.

New Orleans Medical and Surgical Journal, May.

140.—*Note on the Interval Between Infecting and Secondary Cases of Yellow Fever *from Records of* Yellow Fever at Orwood and Taylor, Miss., in 1898. H. R. Carter.
141.—*Clinical Observation on Heroin and Heroin Hydrochlorid as Compared with Codein and Morphin. F. C. Floeckinger.
142.— 1. Undiagnosticated Elbow Injury. 2. Movable Kidney. W. W. Keen.

American Journal of Surgery and Gynecology (St. Louis, Mo.), April.

143.—*Some Pathologic and Clinical Phases of Gall-Stones. A. H Cordier.
144.—*A Few Practical Points which will Prevent Troublesome Complications in Fractures of Ankle and Elbow. A. J. Ochsner.
145.— Cases of Head Injury. Geo. W. Cale.
146.— Vaginal Hysterectomy; 225 Consecutive Cases; Four Deaths. Byron Robinson.
147.— Case of Double Vagina and Double Uterus; Four Pregnancies. Herman E. Pearse.
148.— Report of Five Operative Cases of Tubal Gestation. R. J. Christie, Jr.
149.— Suppuration of Wound after Abdominal Section, Based on an Analysis of 114 Consecutive, Unselected Abdominal Sections without a Death. Hunter Robb.
150.— Some Points Worthy of Consideration by the General Surgeon. D. S. Fairchild.

New England Medical Monthly (Danbury, Conn.), May.

151.— Observations on Treatment of Strangulated Hernia, its Complications and Sequelæ. (*Concluded.*) J. Coplin Stinson.
152.— Some Properties of Utropin, and Some of the Indications for its Use. Leopold Casper.
153.— Albuminuria in Pregnancy: Its Causation and Treatment. E. M. Smith.
154.— "Allenbury's" Infant Food. Harry C. Algire.
155.— Alopecia. (*Concluded.*) L. Duncan Bulkley.
156.— Operation on Cervical Ganglia of Sympathetic for Epilepsy, Glaucoma and Exophthalmic Goiter. Emory Lanphear.
157.— Stitch Abscesses in Abdominal Incisions. Points in Regard to Their Etiology and Treatment. Frank H. Washburn.

AMERICAN.

1.—See abstract in our society reports, this week.
2.—See abstract in The Journal of May 5, p. 1133.
3.—See abstract in The Journal of May 12, p. 1194.
5.—See ¶ 1, above.

6. **Present Status of Rectal Surgery.**—Mathews calls attention to the neglect of the subject of proctology in certain surgical text-books and to some of the misstatements they contain. He notices the progress of the specialty of rectal surgery, but condemns the rushing into specialism of those who are not fully prepared by previous general practice. The society is not to be composed of men who devote themselves exclusively to this subject, but those who desire to become better posted in this class of cases. He suggests that it be annexed as a section to the American Medical Association, and that the rules be rigid in the admission of members.

7.—See ¶ 3, above.
8.—Ibid., p. 1193.

9. **Defense of the Organism.**—Meltzer maintains that the prevailing opinion of bacteriologists, who regard the defense of the body against hostile germs as due exclusively to a single element, whether it be alexins or leucocytes, is neither correct nor advantageous. He believes that it is not by a single tissue or a single function, but by concentrated action of independent factors that this defense is maintained, and illustrates this by the conjunctiva, which is usually sterile, notwithstanding its constant exposure. The causes of this are the reflex closure and blinking of the eyes and the bactericidal effect of the tears; similarly the respiratory organs, which are constantly invaded, are protected by the tortuous part of the upper portion of the tract, the action of the epithelial cilia, and the thinness of the epithelial layer, admitting the bacteria quickly to the lymph-glands, which take good care of them. Other defenses are the sphincter muscles at the entrances of some cavities of the body, and such secretions as tears, saliva, mucus, etc. Two new factors, however, which he thinks assist in the work of destruction of bacteria in the body, are proposed. One of these is plasmolysis. He attributes to different osmotic pressures of the fluids, the important part in this function. The second new factor is the heart's impulse. A certain maximum of vibration is indispensable to all forms of life, and can not be overstepped by any one. Every species has its certain individual minimum in this respect. He thinks that the vibrations emanating from an impulse of the heart probably form the optimum of the vibration for the living cells of each individual animal. Recent experiments have shown that the vibrations communicated through the body by the heart are deleterious to extravascular dead blood and the suggestion which he wishes to make is that those emanating from the heart-beat of the animal are more than a maximum for all the bacteria invading the interior of the animal body, especially in the injured state in which they are placed by the other influences of the body, for instance, by the plasmolysis. Thus, while we constantly live in a state of latent infection, as Adami calls it, it is not a foe to normal health or life, but is rather a confederate in their defense.

10.—See abstract in The Journal of May 2, p. 1193.
11.—Ibid., p. 1193.
12.—Ibid., p. 1194.
13.—See abstract in our society reports of this week.

14. **United States Pharmacopeia.**—Wood's address reviews the history of the Pharmacopeia and notices the fact that it is especially a book for the pharmacist rather than the medical profession. He congratulates the recent convention for revision on its success and the high standard it has maintained, and makes the proposition that the committee on revision should be divided into two parts, one to prepare and the other to publish the Pharmacopeia.

15.—See abstract in The Journal of May 12, p. 1194.
16.—Ibid.
17.—See ¶ 1, above.

18. **The Tropical Army Ration.**—Munson's article answers the question whether the present army ration is suitable for the tropical service, in the negative, and this involves the consideration of the physiology of hot climates, which is taken up. He finds that the body temperature in the tropics is elevated in new arrivals; the vital forces must frequently neutralize heat reception under external conditions to keep

the bodily temperature down toward the normal. This produces an alteration in the metabolism, and there is additional work for the kidneys and liver, for an excess of nutritive material which in temperate climates would be oxidized here requires to be excreted. The loss of weight occurs in hot countries as in summer in temperate climates. Loss of weight, provided the decrease is limited to the adipose tissue, however, may be considered as strictly beneficial. Tropical heat lowers the pulse-rate, and increases the respiratory capacity by making an alteration in the relative proportion of blood and air in the lungs. Respiration is diminished, perspiration increased and urinary excretion diminished. Through the loss of fluid resulting from increased perspiration, there is a diminished secretion of saliva, mucus, bile, gastric and pancreatic juices, and as a consequence there is dryness of the throat, weakness of appetite and improper digestion, gastric fulness after eating, and habitual constipation.

19. **Stricture of the Urethra.**—Of all the causes of stricture of the urethra, gonorrhea stands first, other disorders being various diseased conditions, non-gonorrheal inflammations and traumatism; this last stands second as a cause to gonorrhea, in fact, is relatively more frequent, but the number of cases of gonorrhea being so much greater than the number of cases of traumatism, those of gonorrheal stricture of the urethra are proportionately increased. In many cases, however, the etiologic factor is not discovered. It is possible that an abnormal state of the urine may produce the condition and that it may thus be accounted for in gouty or rheumatic cases. The constitutional disorder mentioned by Cumston is scrofula, though he does not credit it as a factor or believe in masturbation as a cause; calculi may be a cause, and may account for many rheumatic cases. The pathology of the condition and its symptoms are described at length and also the consequent bladder changes.

20. **Nitrous Oxid: Ether: Chloroform.**—Goldan insists on the necessity of not being too wedded to the use of any one anesthetic, as is too often the case. In many cases chloroform is preferable, as in acute pulmonary diseases, and in disorders of the circulatory system, since it lowers the blood-pressure and the chance of artery rupture is lessened. Where compensation has occurred, ether is to be advised. Alcoholic and drug habitués are better with chloroform, and it is preferable in obstetrics, though it is contraindicated if surgical narcosis is necessary, and particularly if hemorrhage is present. Chloroform should not be used at night as decomposition takes place when the vapor is brought into contact with an open flame, and the irritating vapors produced are dangerous. Ether can be used at night with safety if the light is above the patient and care is taken as to the inhaler and the container. In emergency cases, chloroform should not be used with the very young or the very old, and ether is practicable, if properly given in old or even young, where it has been claimed to be contraindicated. The after-treatment of the patient is important; he should be put in a bed that has been warmed, should be well covered, and have fresh air admitted to the room. Washing out the mouth with water in which there is a little lemon juice or peppermint will remove any unpleasant taste or odor from the ether. Vomiting should be encouraged, as it relieves the stomach of mucus and saliva. Of the various emergencies arising during anesthesia, the following are mentioned: a falling back of the tongue, which should be looked for; posture, which sometimes interferes; a valve-like action of the lips in very old persons, that sometimes interferes with respiration; spasm of the glottis, chest muscles or lower jaw muscles; vomiting, when loose teeth or particles of food are especially dangerous; insufflation of blood into the larynx, causing asphyxia. He speaks of performing tracheotomy before prolonged operations, and packing the pharynx with sponges as a safeguard against such accidents. In operations on children, for adenoids, etc., chloroform should not be used, as there is a danger of insufflation. In those cases where asphyxia occurs, artificial respiration should be practiced, the patient on the side and inverted, with the head extended. The dangers from the improper administration of the anesthetic are chiefly of the asphyxial nature when ether is used; direct paralysis of the respiratory function is rare, as is also the depression of the circulation. With chloroform, there may occur depression and paralysis of the vasomotor centers, great fall in blood-pressure, and more rarely, paralysis of the heart. The respiratory centers are only secondarily involved. Collapse from ether rarely occurs without the warning of a shallow gasping respiration, and small rapid, irregular pulse. With chloroform the most frequent symptom of danger is an ashy gray pallor, with a rapid failure of the pulse. The possibility of collapse occurring without warning is mentioned, though he thinks this rare. Artificial respiration, except in operations on children, for adenoids, etc., already mentioned, is best done by Sylvester's method, as inversion permits the blood to gravitate to the vital centers in the medulla. Rhythmic traction of the tongue, according to Laborde's method, is also described, as are also other methods for exciting reflex respiration. Of the drugs that may be used, alcohol is condemned and ammonia recommended; harm may be done to the respiratory apparatus if too much is given. Strychnin is given as probably the best circulatory and respiratory stimulant, but if improvement does not result after a fair-sized dose, no further dependence should be placed on it. Other drugs mentioned are atropin and digitalis though they are not especially recommended, and amyl nitrite, which is found to do more harm than good, when chloroform is administered, though it may be useful with nitrous oxid. Saline infusion is of the greatest value in the treatment of shock where much blood has been lost. The introduction of hot fluid into the colon, though not practiced to a very great extent, is one of the best methods of treating shock and urinary suppression and relieving thirst. Goldan is doubtful as to anesthesia ever being in itself the cause of pneumonia, it is due rather to faulty management. However, he does believe that nephritis or suppression of the urine may result from supersaturating with anesthetics. Paralysis following anesthesia may be due to faulty posture or apparatus, or to rupture of a blood-vessel from improper management.

21. **Modern Medical Conceptions.**—Coulter calls attention to the progress of medicine, as influenced by improved methods of instruction and the use of the microscope, etc., in building up scientific conceptions. He thinks the fact that so many specialties have progressed so far is evidence that other departments can also be put in the same advanced position.

22. **Tuberculosis.**—Russell's paper is a plea for dispensary treatment of the consumptive poor who are not able to go to sanatoria, but can be cured or helped by proper treatment. He thinks that in the early stages of consumption, by patient and long-continued treatment, many can be cured, all can be benefited, all so taught as to be capable of directing and teaching others. He believes that the proper establishment of these methods would break down the idea that consumption is in all stages incurable, and would lead to measures for relief in the early stages.

23. **Management of the Hair During and After Fevers.**—According to Jackson, during the illness we can do little or nothing, except keep the scalp in a good condition. If the patient is a man, that will be a comparatively easy task, but if a woman, it will be more difficult. As a rule, the hair does not begin to fall out until some six weeks or more from the beginning of the disease, then if the patient has recovered with her hair in a snarl and is under 15 years of age, the easiest course to pursue is to cut it off as short as necessary, but if she is older, or even in a child under certain conditions, the careful attention of the nurse will unravel the snarls. Then the hair should be combed and brushed daily, for only diseased hair can be brushed out, and the sooner that is removed the better. Once or twice a week a little pomade, containing a dram of precipitated sulphur to an ounce of good cold cream, should be gently worked into the scalp, or a 3 per cent. lotion of resorcin in oil and alcohol can be used. Once in every two or three weeks the hair and scalp should be washed, and the best kind of soap is a liquid one, such as the tincture of green soap. This should all be washed out and the best way to do it is to place the head under a full stream

of water as from a faucet. After washing the hair, it should be carefully dried and a little pomade rubbed into the scalp to take the place of the oil which has been removed. With this method the patient will regain all the hair she has lost and sometimes more, and be saved the discomfort of wearing a wig.

25. **Ether Anesthesia.**—Burrows would give four drams of sulphate of magnesium four hours before the anesthetic, and an injection of a quart of warm water an hour previous; he would restrict all food during the interval, with the exception of perhaps milk, and discontinue that at least four hours previous to the operation. He gives plenty of water, but empties the bladder before the operation, and removes false teeth from the mouth. He says there is no use of giving atropin prior to the anesthetic, which should be commenced gently, with irritation to the respiratory mucous membrane avoided by the gradual admixture of air. Stoppage of breathing in the early stages should not be considered alarming, but the inhaler should be raised and fresh air allowed to strike the nostrils, using a little ether on the chest to help start breathing at once. Plenty of ether is to be used in the early stage, but mixed freely with air, and we should watch the pupils, and if they are dilated widely and irresponsive to light, look out. Always keep the patient thoroughly anesthetized, watch the tongue, and if necessary use tongue forceps. Withdraw the ether occasionally and allow a few breaths of air. Be sure and keep the patient warm. If shock has been considerable, give a hypnotic of 1/30 to 1/15 grain of strychnin and do not leave the patient until reaction begins.

27. **Ophthalmic Memoranda.**—DeBeck's paper considers the medicolegal cases in eye surgery, which are not common, but do sometimes occur and are of importance. He mentions several interesting suits for malpractice, some of which are due to fraud, and also suits for services rendered. In one case of ophthalmoplegia an agreement was arranged by which he made an examination under the joint auspices of both parties and submitted a report to each. The result was a mutually satisfactory compromise, and he thinks this an ideal way of obtaining expert testimony.

28. **Mould in Stomach.**—Einhorn reports four cases in which he found spores and mycelia of fungi abundant in the washings of the stomach. These organisms do not find favorable soil for their development in the normal stomach, and any considerable growth would not be possible unless a colony had become so firmly adherent that it had not been carried along with the onward passage of the chyme. It is improbable that any considerable surface of the stomach can be thus occupied and yet be unattended by disturbances of the functions, though it is not easy to say exactly how this may occur. In his cases Einhorn found the mould formations in two groups of gastric affections: 1, in cases of excessive hyperchlorhydria occasionally attended with hypersecretion and vomiting; 2, in gastralgia with normal or reduced gastric secretion. In some of these cases lavage, followed by spraying with a weak solution of nitrate of silver, caused a disappearance of the mould flakes and a subjective improvement in the condition of the patient. He thinks, therefore, that it is probable that mould fungi are connected to some extent with the above-mentioned conditions, and from a therapeutic standpoint, it is therefore desirable to free the stomach from these moulds, and this is best done by irrigation in the fasting state, followed by a spray of an antiseptic solution of silver nitrate, 1-2 per 1000. Otherwise the treatment of these cases must be directed in accordance with the special disease present.

29.—See abstract in The Journal of Dec. 2, 1899, p. 1424.

31. **Tricuspid Regurgitation.**—Huntington finds his experience at variance with text-books for, in his examinations, he discovered a large number of tricuspid regurgitations accompanied by conditions more or less abnormal. It is usually described as rare, and yet a certain amount of regurgitation at that valve is said to be normal. He discusses the subject at length and objects to the conclusion that there is a normal regurgitation, on anatomic grounds. He thinks that the structure of the columnæ carneæ shows that the valve has an automatic safety action and does not depend on a defect for its salvation.

33. **Eye Strain.**—Satterwhite's paper is a plea for the relief of various conditions, epilepsy, insanity, insomnia, etc., by operation for eye strain. He reports one or two cases that indicate the value of this method.

34. **Nephritis in Childhood.**—After a historical introduction, Moncorvo reports a number of cases of nephritis complicating malaria that he has found in his experience, which he thinks goes to prove that in cold or temperate climates, malaria plays the same part in the production of nephritis in the young, as does scarlet fever. The disease is of short duration and generally favorable in its outcome. Edema is sometimes extensive and the secretion of urine more than usually diminished, while albuminuria is almost constant and hyaline cysts are also present. As regards its pathogenesis, he suggests the theory of an antitoxin from malaria parasites.

35. **Care of Feeble Infants.**—Ransom makes the statement that allowing 15 per cent. of the children in the United States born to be either premature or feeble, we have 420,000 of them annually, and he details caring for these infants by incubators, etc., that can be improvised in the poorer homes.

36. **Tuberculosis.**—According to Gardiner, the reasons why tuberculosis spreads more rapidly among cattle than the human race, are: 1. A normal temperature nearer to that which is most favorable to the growth of the germ. 2. Generations of in-breeding of milk cattle. 3. Local stable conditions favorable to ready contamination.

38. **Etiology of Beri-beri.**—Ashmead discusses and disputes some of the theories in regard to the origin of beri-beri, which he attributes not to a germ, but to carbonic acid poisoning. He thinks it is a peripheral "neuritis and myelitis of the extremities and of the heart, dropsy following by osmosis through the paralyzed coats of vessels. Dangerous symptoms are respiratory and heart complications, gasping for breath, cyanosis, vomiting, etc. Evidently the pneumogastric nerve is implicated. The best treatment is transplantation to an altitude, fresh air, oxygen by tank, and diaphoretics, and diuretics. Hemoglobin being deficient in every case of beri-beri, and the red corpuscles being always normal, prove that the disease is not caused by insufficient alimentation."

45.—See abstract in The Journal of Dec. 2, 1899, p. 1421.

47. **Pneumothorax.**—From an analysis of fifty-one cases examined in the Boston City Hospital during a period of eighteen years, Morse concludes that pneumothorax is an uncommon condition, and that at least 70, and probably 85, per cent. of the cases are tubercular. In non-tubercular cases the prognosis is good when it is due to trauma, and fair when secondary to pulmonary abscess. The results of rib-excision in these cases are very encouraging. Tubercular pneumothorax is most common in males, is most frequent in the third decade of life and occurs about twice as often on the left as on the right side. The onset is acute in less than one-half the cases, and sudden pain with dyspnea is the most common initial symptom. Pneumothorax may be the first sign of tuberculosis. Displacement of the heart always occurs, being most marked in left-sided cases. Pneumothorax is usually complicated by the presence of fluid. Air is rarely present alone in patients living more than a week, and the fluid is more often purulent than serous. About 15 per cent. may recover, but they are practically all serous, and usually die later from pulmonary phthisis. Pneumothorax is a direct cause of death in 60 per cent.; and 80 per cent. die in less than a year, while only 10 per cent. live over five years. The prognosis is worse when the pneumothorax is right-sided or when it is purulent rather than serous, and when found in women. Surgical intervention is at least worthy of consideration in purulent cases. People with these disorders are sometimes able to be up and about, and often able to work.

48. **Acute Pneumonic Form of Tuberculosis.**—Elting details cases with pathologic findings. [illegible] were [illegible] exudates filling up a large part of [illegible] in the older portions. The latter [illegible]

though neither tubercle bacilli nor any other bacteria were found in connection with them. They are, he believes, the result of the direct action of the toxin. The main clinical features of the disease are onset very often without chill, though it may occur; fever, often of an elevated character, but very frequently irregular or remittent and practically always the latter in advanced stages; an absence generally of marked dyspnea and cyanosis; physical signs; consolidation of greater or less proportion of the lung; pain in the side, with cough and sputum, which is at first typically pneumonic, but at the end of a week or ten days may assume a greenish tinge, and containing tubercle bacilli. In the cases reported they were found seven days after the onset.

49. **Senile Bronchitis.**—Wilcox describes and discusses the degenerative condition of old age and the pathology of senile bronchitis. Bronchorrhea with senile cough is common and passes often so rapidly and imperceptibly into active bronchitis that the patient is taken by surprise. Chilly sensations, general malaise, increase of cough, local pain, may all be wanting, but the increasing purulency of the sputa and the high rectal temperature and duskiness of the face show that bronchitis is present. The auscultation and percussion signs may also be insignificant. The diagnosis from pneumonia is made largely by the physical signs and the general prostration, but it is not always easy to distinguish it from tuberculosis. Sometimes only the post-mortem will establish the diagnosis. The tendency is for the condition to become chronic, as it can not be cured unless we can say that we can cure old age. The drugs in which he puts most confidence are ammonium carbonate and strychnia. The tissue conditions should be looked after and massage is often useful. The points as summarized are: 1. Careful diagnosis. 2. Use of strychnia and ammonium carbonate. 3. Prohibition of opium. 4. Systematic massage, especial attention being given to the chest. 5. Improvement of the general health.

50. **Neurofibromata of Nerves.**—Keen and Spiller report a case of multiple neurofibromata of the ulnar nerves, illustrated by elaborate drawings of the pathologic conditions. Spiller reviews the literature of the subject and refers especially to the possibility of degenerative malignant change in the tumors.

51. **Ectopic Gestation.**—Three cases of ectopic pregnancy are reported by Davis, and the diagnosis briefly discussed. He believes that shock referred to the abdomen, occurring in a woman capable of pregnancy, should always occasion a suspicion of this condition, though no tumor be found and the signs and symptoms be obscure; if the shock be pronounced, the abdomen should be opened and the condition present be diagnosed and treated. In one of the cases here reported the absence of shock was the only thing which made him doubt the diagnosis.

52.—See abstract in The Journal of March 17, ¶ 688.

53. **Plague.**—Clemow concludes his article on the clinical aspects of plague, by giving the manifestations of the disease. He calls attention to the varying character of different epidemics, as for example, the recent serious recrudescence of the disease in Poona during the monsoon, something entirely contrary to its behavior in previous years, there or in any other part of India. The disease, however, is unquestionably connected with, if not solely caused by, the entrance of specific bacilli into the body, and the subsequent production of specific toxins which, circulating through the tissues, produce the varied general and local symptoms. The toxins appear to have a special and early action on the brain and nerve structures. They are primarily nerve poisons, and the affections of other organs are, to a very great extent, perhaps more than is generally thought, due to the profound disturbance of the nervous mechanism that controls their action and nutrition.

61. **Puerperal Sepsis.**—The points of Polak's paper as summarized by him are: 1. Puerperal sepsis usually begins in one of two forms of endometritis, i. e., putrid or septic, except when the infection has been direct through the inoculation of lacerations and abrasions by the streptococcus or by the tetanus or diphtheria bacillus. 2. While the curette is indispensable to the successful management of putrid endometritis, it is harmful in an empty uterus, such as is commonly found in the septic form. 3. All forms of septic infection are benefited by general stimulation and supportive treatment. 4. Of the antitoxins used, unguentum Credé has proved its superiority over the antistreptococcic serum. 5. Blood-washing and artificial production of a hyperleucocytosis are valuable adjuncts to the routine treatment. 6. Hysterectomy, postpartum, should be limited to those cases in which the sepsis is localized, as a metritis with pyosalpinx, or tubo-ovarian abscess, after the acute symptoms have somewhat subsided. Finally, the most parametric pus collections can be more safely handled by vaginal section.

62. **Carcinoma Uteri.**—Boldt reviews the methods employed for the palliative treatment of uterine carcinoma and concludes that curetting and the actual cautery are the best therapeutic methods for the treatment of this condition.

70. **Intrauterine Implantation of the Ovary.**—Dudley reports a case in which he had performed a double ovariotomy, and in order to preserve the function he took the right ovary, cutting away the portion which rested against the pyosalpinx, and planted it within the uterus, fastening it there with fine silk sutures, then closed the uterus, which he dropped back into the pelvis. The patient made a good recovery, and menstruation continued, but as she is an unmarried prostitute he does not look for pregnancy in her case, but he will in future watch for such cases, hoping to find a case of pregnancy following such a procedure.

71. **Heat in Pruritus.**—Andrews calls attention to the value of heat as a cure for intolerable pruritus, especially in those forms occurring in connection with chilblains, and in the anus and adjacent organs. As a historical fact of interest, he shows that the first Napoleon used this method to relieve a distressing pruritus of the thigh, and mentions the case of an old farmer who had made the discovery independently in his own case. The later authorities are beginning to recognize the value of this agent, but he thinks it should not be depended on too exclusively, though it is a powerful source of relief.

84. **Typhoid Fever.**—Wilson's article is a report of an experimental therapeutic study of the treatment recommended by Aulde, for typhoid fever, in which he advises the use of nuclein and copper arsenite. The results with this method are not favorable, and he thinks Aulde's assertion that typhoid fever can be brought to a favorable termination in from three to five days by this method is absolutely without support.

85. **The Alleghenies for the Tuberculous.**—Spangler points out the climatic and other advantages of the Allegheny region for the treatment of tuberculosis, and shows a climatic meteorologic table. He pleads for legislative interference to preserve the forests of this region and endowments for public sanatoria there.

86. **Pulmonary Tuberculosis.**—The measures recommended by Forrester for the prophylaxis and management of phthisis are: The regulation of marriage of consumptives, the legal checking of indiscriminate expectoration, regulation of possible tuberculously contaminated foods, proper clothing, early care of catarrhal troubles of the respiratory tracts, outdoor occupations, fresh air, plain nutritious diet, etc. He appears to indorse Mays' theory of the neurotic origin of the disease and the value of silver nitrate injections.

94. **Relation of Uric Acid to Migraine.**—Lichty reports the results of his studies of the urine, with especial reference to uric acid and urea in their relation to migraine. For the estimation of urea, Liebig's method was employed, and for uric acid the method of Hopkins, modified by the use of a decinormal solution of sulphuric acid with methyl orange as an indicator, instead of titrating with the unstable potassium permanganate solution. When the headache began, the patient was instructed to save the urine in separate vessels during the entire period of the attack, and that voided at the time of the greatest intensity was examined, as was also that specimen collected as soon as the headache disappeared. Several times examinations of two urinations during the attack were made, and also one or more similar examinations in the interval be-

tween the attacks. From these studies, carried on during the past three years, it was found: 1. That both uric acid and urea were diminished during the height of the headache, but their own relation was not disturbed. 2. That after the headache, the urea increased to about what it was between the attacks; while the uric acid increased much more, thus changing the former ratio. These results do not agree with the uric-acid theory of migraine, but the control experiments made by Lichty seem to confirm them. He found that the uric acid wave associated with migraine does not appear for some hours after the culmination of the attack, and that, therefore, this increase of uric acid is to be taken as the effect rather than the cause. By careful chemical analysis, he finds that there was no excess of uric acid in the blood during the attack of migraine, and that in some cases there was even a slight increase of alkalinity.

96. **Curability of Nervous Diseases.**—Punton finds that practical knowledge and experience prove conclusively, that when the two great classes of nervous diseases are compared, irrespective of their seat, the organic diseases are well-nigh incurable, while the so-called functional disorders are in most part curable if recognized early. While there are some exceptions to this rule, its general validity can not be disputed. He notices the views of different individuals on this question, such as, for example, claims that epilepsy is curable, which he rejects.

97.—See abstract in THE JOURNAL of April 21, p. 1005.

102.—See abstract in THE JOURNAL of April 14, p. 934.

103. **Diagnosis of Pneumonia.**—Several cases are reported by Behrens, which show the difficulty of making an immediate diagnosis of pneumonia, the symptoms and physical signs being obscure. He emphasizes the following points as important in making the diagnosis in non-typical cases: 1. Be in no hurry to pronounce a case pneumonia of special type unless you have examined the patient thoroughly, both as regards objective and subjective symptoms. 2. Remember that no sharp line exists between the ending of a severe bronchitis and the beginning of capillary or catarrhal pneumonia. 3. Depend always on a physical examination as being of the most importance. 4. Children under 6 years have, as a rule, capillary catarrhal pneumonia; 6 to 16, croupous or catarrhal; adults, lobar pneumonia. 5. Do not lose sight of chest exploration, if peculiarities arise in continued fevers.

111. **Latency or Cure of Pulmonary Tuberculosis.**—Von Ruck points out the possibility of latency of phthisis, and insists on the necessity of treatment and testing of cases by the tuberculin reaction before they are pronounced cured. Patients that have been treated by tuberculin preparations can not properly be tested at the discontinuance of treatment, but six months later would give a sufficient interval to make the test of value.

118. **Diaphoresis in Pneumonia.**—In the *Medical Register* for Aug. 15, 1897, Miller reported the use of wrist heat for producing diaphoresis in the treatment of pneumonia. Since that time he has successfully used the treatment in a number of cases with uniform good results ,with one exception. "The method of application of the wrist heat is to heat several bricks (six will usually suffice) in the oven and then thoroughly saturate them with boiling water, after which they are to be wrapped in cloths, preferably flannel, and placed about the patient. Sweating must be kept up from two to forty-eight hours, relief of pain being a most valuable indication for discontinuance. The bricks may be removed from time to time by carefully withdrawing them one at a time, and replacing each as removed by a new one prepared as above. Patient's clothing and bed-clothes should not be changed until thoroughly dry." Several cases are reported.

127. **Babinski's Symptom.**—According to Wood, the toe reflex can not be relied on as a basis for diagnosis. He has studied it in children and adults, and has not been able to corroborate the statement of Collier, as to the correctness of the original claim of Babinski, who held that there are two distinct forms of the plantar-reflex, one of the normal adult, and one of the child; and that in certain cases of disease, a reversion of the former reflex occurs in the adult so that it is possible to make a diagnosis as to the seat or even the nature of the disease by this symptom.

128.—See abstract in THE JOURNAL of May 12, ¶ 46, p. 1185.

140. **Yellow Fever.**—Carter has analyzed the cases of yellow fever that have occurred in two Mississippi towns, with the special object of ascertaining the regular interval that must elapse between the development of yellow fever in non-infected places, and the development of that contracted by infection. The points involved are, the time from the development of the infecting case until that of another, plus the time the individual in question was exposed to the environment before he contracted the disease, plus the time from the contracting of the disease until its development. He thinks there is much evidence that is usually in, or not sooner than, the third week that the secondary case develops. There is no definite time limit that may be called the situation of "safe" or "unsafe," but hope of safety increases with the passage of the third week and the lapse of time after this. The first group of cases infected from the initial case occurs generally in from two to three weeks. These form new foci, the original ones remaining active; and in two or three weeks more a fever should be "scattered" in tertiary foci, just beginning. Prior to this it is found only in those who have had a common exposure, seldom in more than from four to eight places.

141. **Heroin.**—Floeckinger has used heroin at first in 1/6-grain doses, but with this he noticed gastric disturbances in several cases. Since then he has used it only in 1/12-grain doses, and he has found that the hydrochlorid is admirably adapted for hypodermic injection. The dose is from 1/24 to 1/12 grain, whether given hypodermically or through the mouth. He does not think one is liable to become addicted to the use of heroin, as its narcotic effect is so much inferior to that of morphin. In conclusion he says that we possess in heroin an excellent sedative of the respiratory tract, which is devoid of the narcotic effect of morphin or codein and, therefore, in physiologic doses is entirely uninjurious.

143. **Gall-Stones.**—Cordier considers that cholelithiasis is of frequent occurrence and is usually accompanied by symptoms. Cholesterin as a gall-stone-producing agent must be present in an abnormal quantity, for it is largely a product resulting from the destruction and disintegration of the epithelium of the biliary ducts and gall-bladder. Bilirubin-calcium, an insoluble compound of bilirubin and the lime salts is a nucleus of all stones found in the ducts and the majority of those formed in the gall-bladder. Jaundice, ptomain poisoning and suppuration are late symptoms, while dyspeptic ones, swarthy skin, uneasiness in the region of the gall-bladder, and loss of weight are some of the remote and local ones. The most direct causative factors are inflammatory diseases of the duodenun and bile passage. While some patients get well without medical or surgical assistance, the physician can greatly aid the progress. The surgery is especially difficult and should not be undertaken by the inexperienced. A ball-valve stone continuously gives rise to symptoms until surgically removed, and when septic ones occur from gall-stones surgery is required.

144. **Fracture of the Ankle and Elbow.**—Ochsner calls attention to the fact that in a very large proportion of cases there is painful ankle-joint following Pott's fracture, due to the foot being in the equinus position, and resulting from the position in which the foot was fixed when the fracture was first treated. This is nearly always in an obtuse angle to the leg, and the gastrocnemius muscle is in a condition of tension. He would remedy this by putting the leg in a flexed position with relaxation of this muscle. To obtain a good result we should always place the foot at a little less than a right angle. In the treatment of fracture of the elbow-joint one of the most common difficulties is a partial ankylosis, especially in children, and the best result he has had in the treatment of this condition is obtained from encouraging the use of a wheelbarrow, something a child will enjoy, and that will cause a spontaneous straightening of the arm.

FOREIGN.

British Medical Journal, April 20.

Acoustic Principles Affecting Conduction of Sound by Bones of Head. ALBERT A. GRAY.—The object of the author's investigations was to find out the acoustic principles on which the tuning-fork tests depend. The fact that the same results can be produced by apparently opposite means in these tests gave rise to certain questions which he sought to solve. His experiments were made on an individual who was unacquainted with the principles involved, and by means of a probe introduced through the meatus against the drum membrane, and by gently pushing it forward against the handle of the malleus and other portions of the drum membrane the sound of the tuning-fork was modified. It was found that inward pressure of the outer parts of the membrane and of the manubrium produced opposite results, and the author accounts for it by the anatomic arrangement of the muscular fibers. The normal position of the drum membrane is slightly depressed in the center, like a funnel, with its apex pointing inward and its convex sides outward. When pressure is applied to these convex sides the radiating fibers will be relaxed and the circular ones become tense. When this occurs the former fibers become worse conductors of sound and the latter better ones, because the increased tension of fibrous substance produces increase in its sound-conducting power, and vice versâ. So when pressure is brought to bear on the convex surface of the membrane, the radiating fibers are relaxed and the intensity of the sound conducted by the hammer is diminished. When, however, the probe is applied to the handle of the hammer, the results are different. The apex of the funnel is pressed inward and the tension of both sets of fibers, circular and radiating, makes little or no difference because the paths for the conduction of sound are the radiating ones. The latter are tenser than *when* the membrane is in a normal condition and the sound is conducted with less loss to the ossicles and thence to the labyrinth. The manner in which the atmospheric pressure causes alteration in the tension, however, is peculiar. Were the membrane equally strong in all parts and not attached to the ossicles, when the atmospheric pressure was increased or diminished the movement of the membrane would be greatest at the middle. Now after very slight increase of pressure of air this is true; the tip of the handle of the hammer and center of the membrane move more than the outer parts, which causes an increase in the tension of the radiating fibers and hence increase in the subjective intensity of the sound conducted by the bones of the head. This explains the fact that if the finger is inserted in the meatus the duration of sound is increased by better conduction. If, however, the finger is pushed forcibly into the meatus, the movement of the center of the membrane and the handle of the hammer soon stops, partly because the ligaments of the ossicles come into play, also because the cog at the head of the handle catches on the incus and further movement inward is prevented or greatly diminished. The cause of the changes in the bone production when the air is condensed in the meatus seems, therefore, to be this: At first, under very slight increase of pressure, the center of the membrane with the handle of the hammer is drawn slightly inward, while the remaining parts of the membrane increase their convex form; this increases the tension of the radiating fibers, and hence their sound-conducting power; so with very slight increase of pressure of the air, increased intensity of the sound conducted by the bones is produced. If, however, the pressure is increased to more than a slight extent, the center of the membrane remains stationary while the convex surfaces of the membrane become flattened; hence relaxation of the radiating fibers occurs, and diminution in the intensity of bone-conducted sound takes place. The practical applications of the investigation to the test of hearing by better conduction in the deaf, and the experiments which have been made with the view of ascertaining the part played by the tympanic membrane in the generation of different tones will be published later.

The Lancet, April 28.

Case of Pernicious Anemia Treated by Antistreptococcic Serum. WILLIAM ELDER.—The writer reports a case of this affection in a man, 35 years of age, who had suffered much from defective teeth. He presented all the symptoms characteristic of pernicious anemia. The blood test, two days after admission into the hospital, gave 797,500 red corpuscles, hemoglobin 24 per cent., leucocytes 4520. The treatment was a thorough disinfecting of the mouth, 5 gr. of salol and 15 gr. of bismuth salicylate internally every six hours, and 10 gr. of antistreptococcic serum injected into the subcutaneous tissue, every second day, the total amounting to eighteen injections up to March 19. This, with the exception of an occasional hypnotic and laxative, constituted the whole treatment. Improvement was rapidly progressive. On March 20, forty-five days after the commencement of treatment, the blood was practically normal, red blood-corpuscles 4,800,000, hemoglobin 104 per cent. While it would be a mistake to draw very decided conclusions from this one case, Elder thinks that it is suggestive and believes this form of treatment worth a further careful trial in pernicious anemia.

Cysts of the Breast; Their Relative Frequency, Diagnosis and Treatment. THOMAS BRYANT.—From his experience the author concludes that cysts of the breast are far more common than generally supposed, and that they are chiefly found in women during the same period of life as that in which cancer occurs. They are mostly amenable to local treatment without the sacrifice of the breast glands in which they are situated, and there is no reason to believe that women who have these cysts are more prone to cancer than those who do not have them. He carefully analyzed his notes of cases, and found that they suggest the conclusion that out of every four cases of tumor of the breast more or less simulating cancer, one at least will be cystic or of a simple nature. He thinks these are originally involution cysts in most cases. Their diagnosis may not always be easy, especially when in a middle-aged woman with a hard, slow-growing lump in the breast, and without any history of influence of lactation or any inflammatory breast condition. A careful medical examination should be made and, if the surgeon's sense of touch is keen enough to detect elasticity in the swelling, or even fluctuation, the diagnosis of cyst may be hazarded. If a clear serous fluid can be made to flow from the nipple, by manipulation or pressure on the tumor, the probability of the cyst being a simple one is much enhanced. If the fluid is brown or blood-stained the possibility of intracystic growth of some kind is suggested, and if more like pure blood, the presence of a soft solid growth, sarcomatous or carcinomatous, should be feared.

Strychnin as a Factor in Causing Cerebral Hemorrhage. LACHLAN GRANT.—The author calls attention to the importance of cautioning elderly patients with arterial defects against drugging themselves with tonic syrups and tabloids containing strychnia. On account of the danger of producing arterial rupture in the brain special care should be taken by the physician in administering strychnia to patients who have reached the degenerative age, especially in cases of cirrhotic Bright's disease, chronic gout and syphilis, or where the patient has thickened or tortuous blood-vessels, or even where there has been an hereditary tendency to apoplexy.

Revue de Medicine (Paris), March and April.

Liver in Scarlet Fever. H. ROGER.—This author has found that the alterations noted in the liver in scarlet fever are most extensive in the subacute cases. Fatty degeneration is the lesion most frequently observed. The organ usually appears enlarged, pale, marbled and crowded with leucocytes, while the cells degenerate. These alterations vary in intensity, and in one case of death after a month of scarlet fever nephritis, the liver seemed to be almost normal. The clinical manifestations of these hepatic lesions offer an interesting field of study.

Semaine Medicale (Paris), April 18.

Benedikt's Syndrome. GILLES DE LE TOURETTE AND JEAN CHARCOT.—The syndrome described by Benedikt, paralysis of the third pair with crossed hemiplegia and tremor, is easily diagnosed, the tremor differentiating it from Weber's syndrome, which it most resembles. With an unpublished observation found in Charcot's papers and two personal cases, the writers were able to collect only six observations on which to found their study of the affection, including Benedikt's three. It commenced at the ninth month, or fourth, sixteenth or thirty-sixth year: gradually, with a premonitory cephalalgia for a year, or suddenly, with ictus inducing coma for three days. The hemiplegia is the ordinary spasmodic form, and may vary in intensity. The tremor may appear with it or not until a year or two later. The symptoms were doubled in one case, producing a dual syndrome. One case terminated fatally in four months, a child of 4; in another—a young woman—the affection has remained stationary since infancy; in a third—a negro, 39 years old—the syndrome has gradually increased in intensity since its sudden onset sixteen years ago. Benedikt attributes the syndrome to a lesion in the peduncle of the cerebrum near the nucleus of the motor oculi, where this nerve emerges, and he was able to establish its existence in one case by an autopsy. The motor or pyramidal fibers entering the peduncle may be affected "by continuity or contiguity" of the lesion, and to this the tremor must be ascribed, and the variability in its nature, although it has the constant characteristics that it is exaggerated with the voluntary movements and ceases during sleep, but otherwise may suggest the tremor from sclerosis in patches or paralysis agitans, hemichorea or hemiathetosis, with and without abolition of the reflexes. The character of the anatomic lesion seems to be immaterial; the localization in the peduncle at this point is the essential factor of the syndrome.

Grece Medicale (Syra), March.

Apyretic Disturbances of Temperature. Triantaphylides.—A number of tests on 130 subjects in health and apyretic disease, instituted by the writer at Batoum, differed in their results from the dicta of the text-books. He found that the normal temperature varied from one subject to another by more than a degree, but that it was more or less constant in each one. Healthy persons with subnormal temperature (35.8 or 36C.) are not rare at Batoum, and inquiry usually elicits malarial antecedents, unless the hypothermia is due to age or a recent disease. In such cases fever might be masked by the habitual hypothermia and a considerable elevation of temperature fail to be recognized on this account. He reviews the disturbances in the calorification in 101 cases of typhoid fever, 81 of pneumonia, and numbers of other diseases, and concludes that the calorification is one of the organic functions most frequently disturbed by affections which in one way or another touch the entire organism, and that affections in which the calorification is disturbed have a much more serious prognosis than others in which it remains intact. Regulation of the calorification is frequently a sign of a favorable issue.

Berliner Klinische Wochenschrift, April 2 to 23.

Toxicity of Thyroid Alimentation.—In the tests reported, dogs fed with fresh thyroid glands showed besides the usual phenomena a levulosuria amounting to .5 per cent, which persisted several days after discontinuance of the thyroid feeding.

Apparato-Therapy. P. Jacob.—This communication from v. Leyden's clinic extols the remarkable benefits that may be derived in long-seated paralytic affections of the central nervous system by the judicious use of apparatus, either to substitute the function of the paralyzed muscle or group of muscles, to assist and reinforce a partially disabled muscle, or to assist and reinforce the sound muscles to compensate the disability of the others. Two instructive observations are described, one a woman of 33 years of age, who could neither walk nor take hold of anything on account of spontaneous juvenile atrophy of the feet and hands. In the other, myelitis luetica had rendered the patient helpless. This latter case was improved by dural infusion of a solution of iodin, and function practically restored to the members by gymnastic exercises while lying on a hammock in a bath, exercises absolutely impossible in such cases without the support of the water.

Water-Secreting Power of Kidneys. G. Kovesi.—In this study, made at Koranyi's clinic, of the disturbances in the water-secreting power in generally diseased kidneys, Kovesi found that certain important facts might be learned by combining a dilution of the urine, by copious ingestion of water, with the determination of the freezing-point. The lowering of the freezing-point of the urine in renal affections depends on three conditions: 1, on the localization and the degree of the morbid process, which together determine the extreme limits of the variability in the concentration of the urine; 2, on the amount of water ingested, and 3, on the permeability for solid molecules still retained by the kidney. The quantity of water which when ingested produces urine isotonic with the blood, may vary with each case. When the nephritic subject drinks this amount, the kind of renal affection from which he is suffering will have no influence on his urine. If he drinks considerably more than is required to produce this isotonic urine, then, in case of parenchymatous nephritis, the urine will be much more concentrated than in case of contracted kidney. If he drinks less than this special quantity, the freezing-point of the urine falls much lower in case of contracted kidney, while it scarcely varies with parenchymatous nephritis. Tests on twenty subjects with normal or generally diseased kidneys have established several points and thrown light on others. Each drank 1.8 liters of Salvator water during the noon hour. Study of the urine then showed: 1. That by determining the lowering of the freezing-point and the quantity of urine eliminated during the twenty-four hours, the amount of molecular diuresis can be ascertained and in pronounced cases molecular oliguria be recognized. 2. That by determining the freezing-point of the blood it can be ascertained whether the molecular diuresis is sufficient for elimination of the molecules capable of passing into the urine, formed during metabolism. If the molecular diuresis is insufficient in proportion to the metabolism— corresponding to the diminished permeability of the diseased kidneys for solid substances—then the freezing point of the blood becomes lower. 3. Hyposthenuria indicates diminished water-absorbing power on the part of the kidney. 4. The more or less negative result of the "dilution test" indicates a decrease in the water-secreting power. The tests showed that the water-secreting power in the kidney is diminished in parenchymatous nephritis in proportion to the severity of the lesion, while it is retained to a greater or less extent with contracted kidney, as also in renal affections due to heart troubles. Congested kidney, in the tests, behaved like a transition form between chronic parenchymatous nephritis and secondary contracted kidney.

Centralblatt f. Inn. Med. (Leipsic), March 31 and April 21.

Rendering a Toxin Harmless. E. V. Czyhlarz.—The German title to this article, "Entgiftung," means, literally, "disintoxication." The experiences related were made in the course of studies to determine the power possessed by the various organs, to render a toxin innocuous for the organism. A ligature was placed on the hind leg of a guinea-pig above the knee and a fatal dose of strychnin injected below. The ligature was removed after one to four hours, and none of the twelve animals showed a trace of intoxication at that time or later. Others succumbed as usual to strychnin intoxication if the ligature was removed in a half hour, but an hour's interval before removing it was sufficient to save the animal from the toxic effects of the drug. Czyhlarz attributes these results to a binding or neutralizing of the strychnin in some manner by the living subcutaneous cellular tissue, muscles and blood and lymph fluids.

Intervals Between Feeding Infants. A. Keller.—The writer states that five meals in twenty-four hours are sufficient for infants, and no more are allowed at the Breslau children's clinic. At the same time he has established that the absorption and retention of nitrogenized substances and phosphates is not influenced by the length of the interval between feeding. Consequently chemical tests are no criterion by which to regulate an infant's feeding-time.

Deutsche Medicinische Wochenschrift (Leipsic), April 26.

German Malaria Expedition. R. Koch.—In this third report Koch describes the results accomplished during January and February in German New Guinea, where he discovered 157 cases of malaria among 734 persons, while he was unable to discover more than 30 cases in five weeks at Batavia. He includes in his list only those in which the presence of the malarial plasmodium could be demonstrated. On a large plantation 12 of the 21 Europeans were affected; 26.3 per cent. of the 240 Chinese laborers; 25.3 per cent. of the Malays; 10.9 per cent. of the Melanese. Among 217 natives examined, he was unable to find a single case of malarial infection in the 154 who were over 10 years of age, and only four between the ages of 5 and 10. But 80 to 100 per cent. of the children under 2 were affected, and over 40 per cent. of those between 2 and 5. "The only means, therefore, of establishing the absence of malaria at a place is investigation as to the children." No cases were found among those at the mission station on an island off the coast, but all were over 2. The form of malarial infection among the children was, in 29 cases: tropical fever in 18, tertian in 5 and quartan in 6. Among the 157 adults it was: tropical in 65, tertian in 20 and quartan in 73. The gradually acquired immunity of the natives after early childhood is apparent from this research, both in Java and in New Guinea. The results of the author's investigations are tabulated and show that elevated regions are certainly more exempt from malaria than low-lying regions, although this is not an invariable rule. There was no malaria to be found, for instance, at Soekaboemi, which is about 1809 feet above the sea, although four different varieties of anopheles were discovered in considerable numbers. On the other hand, at Bandoeng, which is at an elevation of about 3280 feet, over 40 per cent. of the children under 1 year old were affected, and over 14 per cent. above this age.

Pathology of Bronchial Asthma. A. Fraenkel.—The mucous nature of Curschmann's spirals seems definitely established by the post-mortem findings reported by Fraenkel in two fatal cases of bronchial asthma. The anatomic findings are not always the same, but the morbid process, whatever its nature, seems to be restricted to the more delicate bronchial ramifications. There is, however, one constant bond between all the cases, that is, the abundant desquamation of the epithelium. It is impossible for us to understand the modus operandi of the process which in one case causes the shedding of such abnormal amounts of epithelium in the bronchioles that the lumen is almost completely occluded, while, in another, the mucus-producing capacity is augmented to excess and a peculiarly tenacious mucus is secreted, leading to coagulation and spiral-formation. The only possible assumption is the influence of the nervous system, differing in individual cases, on the vascular and secretory apparatus of the bronchial mucous membrane. The central threads in the spirals are most probably, he thinks, long-drawn-out cell bodies from the ciliated epithelium, around which the mucus accumulates.

Treatment of Obesity. W. Ebstein.—Starvation and courses at watering-places to reduce obesity are not the proper methods to pursue, acording to Ebstein. He would have the entire life altered to one of self-control: three meals a day, ceasing to eat at the first indication of satiety, food restricted to about 1300 calories for a man weighing 70 kilos; for breakfast, tea without milk or sugar, and 50 gm. of bread with plenty of butter; for dinner, soup, 120 to 180 gm. of roast meat with cabbage and green vegetables, salad, baked fruit without sugar, and fresh fruit, no turnips, parsnips nor potatoes; for supper, one egg, fat ham, smoked fish, 30 gm. of bread with plenty of butter, a little cheese and fresh fruit. This menu is agreeable to most persons and the appetite can be still further appeased by giving a large place in the menu to vegetables free from carbohydrates. Children of parents with a tendency to obesity should be watched over and not allowed to get into habits that would induce it. This rational, life-long treatment of obesity is also applicable to gout, diabetes, etc., and keeps the subject well and energetic. A good test of the amount to be eaten at a meal is whether one returns to work with zest after it. Milk and the products of milk are allowed when much craved, and the effort is made to substitute the albumin of vegetables for that of meat as far as possible. No naps are allowed after meals.

Mittheilungen a. d. Grenzgebieten (Jena), vi, 1 and 2.

Tumors of Bladder. W. Wendel.—In four of the sixteen observations described, the patients were workmen in anilin factories, which is a suggestive fact. In all the cases the benign papillary tumor of the bladder evidently originated in a primary proliferation of the epithelium, soon accompanied by proliferation of the vessels and connective tissue. These tumors manifest a decided tendency to malignant degeneration, the first indications of which are the appearance of masses of epithelium in the lymph-spaces of the stroma and in small nests, which have no direct connection with the surface. Epidermoidal formations are due to leucoplasia, and the epidermoidal cancers of the bladder and urinary passages are to be explained as metaplasia. This leucoplasia may develop without a preceding cystitis, and epidermoid cancer without a preceding leucoplasia. The most careful study of the tumors failed to disclose any evidence of a parasitic origin, but it enforced the necessity of extirpating the foundation on which the tumor grows, for quite a distance into the apparently sound tissue, even in case of pedunculated tumors.

Operative Treatment of Abdominal Tuberculosis. A. Frank.—The remote results of operative treatment in 63 cases of chronic abdominal tuberculosis and allied conditions are tabulated and the following conclusions in regard to the prognosis are deduced: 1. Tuberculous peritonitis with effusion affords the best prognosis, as 40 to 50 per cent. recovered. 2. The prognosis of the dry variety with adhesions is more serious; only 25 per cent. recovered after operation. 3. The three patients with the ulcerative, suppurative variety died. 4. Among the cases with and without effusion the largest number of recoveries occurred in infection proceeding from the female genitalia: 75 per cent. in the former and 50 per cent. in the latter. 5. The attempt to relieve a patient with indications of peritoneal stenosis, by laparotomy and entero-anastomosis, is a justifiable procedure, although the results are far from brilliant. 6. Tuberculous fecal fistulæ indicate an exceptionally grave prognosis. 7. Tuberculous peritonitis occurring with ovarian cystoma is so rare that the prognosis can not yet be formulated.

Results of Operative Treatment of Basedow's Disease. G. Rembach.—Four to ten years have passed since Mikulicz operated on his first series of nine cases of Basedow's disease, and the remote results are extremely gratifying. All the objective symptoms were nearly or entirely cured by the operation, and the patients have been completely restored to their working capacity and enjoyment of life. This article reviews the results in 18 operated on. Resection was done in 13 with success; enucleation in 3; bilateral resection in 4 at one time, and in 2 at two separate sittings; unilateral resection in 4. The arteries were ligated in 5 cases. No constant pathologic-anatomic alteration could be discovered specific for the Basedow goiter.

Zeitschrift f. Geb. u. Gyn. (Stuttgart), xlii, 1 and 2.

Conservative Treatment of Pyosalpinx. G. Herrmann.—Reviewing his experience with thirty-four cases of inflammatory affections of the adnexa, Hermann recommends resolvent, antiphlogistic treatment of acute cases as long as possible, in view of possibility of spontaneous recovery. He would operate in chronic cases where the sterility of the pus can be counted on, that is, nine to twelve months after the end of infectious process, obtaining, if possible, certainty of sterility of pus with a test-puncture. His method is laparotomy, conservative in the extreme.

Ultimate Results of Bilateral Operations on Adnexa. F. Baruch.—The ultimate results in the cases in which the uterus was removed with the adnexa have proved more favorable than in those in which it was left, according to Baruch's experience with sixty-seven patients followed to date. He attributes this fact to the recurring painful inflammation in the ligated stumps and the stump exudation, which occurred scarcely at all after the radical operation. Other factors were the hemorrhages from the retained uterus, and the climacteric disturbances, which were much less intense in the fourteen from whom the uterus was removed. Abdominal salpingo-oöphorectomy proved effectual in every case, and half of the patients were definitely cured. The percentage of cases in which the working capacity has been restored is about the same with and without removal of the uterus—83.3.

Parietal Bone Presentation. H. BOLLENHAGEN.—Only two out of eight cases of this presentation, at the Würzburg clinic during the last three years, required versio-extractio. The rest terminated spontaneously, consequently Bollenhagen advises awaiting as long as possible before resorting to intervention.

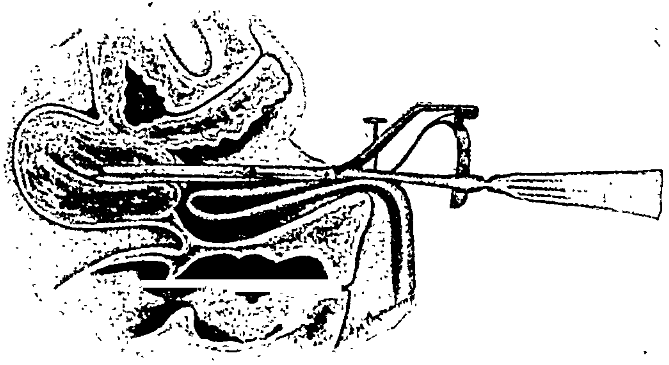
Osmosis Between Mother and Fetus. J. VEIT.—The first result of the research reported was the discovery that the freezing-point of the blood of the child at the moment of birth is lower than that of the mother's blood. It was then noted that the freezing-point of the amniotic fluid is higher than that of the blood of either mother or child. It seems evident from these and other facts mentioned, that the dividing wall between mother and child has something of the nature of a dialytic membrane. Veit adds that further study of the subject may lead to a more rational and effective method of treating eclampsia.

Blood-Pressure in Health. S. JELLINEK.—No relation between blood-pressure and pulse could be detected in tests on 532 healthy soldiers in Vienna. The normal blood-pressure varied between wide limits, from 80 to 185 mm. mercury. The average ranged from 100 to 160 mm. The blood-pressure was higher on the right than on the left side in a number of instances. External stimuli and influences: marching, eating, sharp-shooting, baths, did not affect the blood-pressure materially. In some it was increased, in others, lowered, and in quite a number no effect was perceptible.

Pathogenesis of Eclampsia. W. STROGANOFF.—Several series of cases of eclampsia, occurring at the St. Petersburg Midwives' Institute, sustain the theory advanced by Stroganoff that eclampsia is an infectious disease. Analyzing cases reported by others he notes that Olshausen records eleven series of cases of eclampsia, 83 in all, occurring within 250 days, and Zweifel records twenty series. A curve made up from these and his personal observations shows the same striking accumulation of cases the sixth day after the first infection. He affirms that eclampsia is an acute infectious disease, caused by an air-borne contagium, which usually penetrates into the organism through the air-passages. The disease germ is very slightly virulent. Men and children are not susceptible to it, nor women at any period of their life except during the puerperium. It can also find favorable conditions for development in the fetus, and makes no distinction between male and female in this respect. The germ is very resistant and in hospitals retains its virulence about three weeks. The period of incubation is short, from three to twenty-four hours. Primiparæ, women bearing twins and women with renal affections are most susceptible. Strict isolation of all cases and disinfection of attendants are imperative. Nocard also admits the infectious nature of the disease from his observation of its occurrence in cattle and dogs when casting their young.

Klinitchesky Journal (Moscow), II, 1.

Significance of Pains in Female Pelvic and Peritoneal Cavities. V. T. SNEGUIREFF.—The great importance of the characteristics of the pain in gynecologic troubles, for differentiating affections and indicating treatment, has never been appreciated heretofore. Sneguireff reported a year ago nine cases of severe endometritis dolorosa cured by dilation of the cervix and tamponning the uterus with gauze. As described in THE JOURNAL at the time (March 11, 1899, p. 552), he ascribes endometritis dolorosa to an inflammatory lesion of the uterine mucosa, and not to neuralgia or general neuropathy, as others are inclined to believe. He has been following his cases to date and eight new ones, and has obtained valuable and unexpected information by locating the painful points—which correspond mostly to the emerging points of nerves—and by determining the nature of the pains. He has established, in the first place, that one variety of endometritis dolorosa is a threefold affection, involving the three orifices, anus, urethra and internal orifice of the uterus, which all become spasmodically contracted. The pain is similar in its cause and nature to that of fissura ani, and is benefited by the same treatment as the latter: dilation under narcosis and, if necessary, cutting the fibers of the muscular ring. All the pains vanish at once, showing that compression of the nerves and not an organic lesion was the cause. His method of anterior sphincterian hysterotomy is shown in the cut. One stroke of the concealed knife cuts the internal orifice across and the anterior wall of the cervix. No narcosis is necessary. The patients do not feel the slight incision nor know when it is done. There is no danger of hemorrhage, as he has established that the anterior median line of the uterus, the uterine linea alba, is free from vessels. Even if the bladder should be incised, of which there is scarcely the slightest danger, the incision would close and heal at once with a permanent catheter inserted and left for a time. The region of the incision in the cervix is tamponed with gauze for a couple of days. The significance of the renal plexus in the etiology of pains in the pelvic and peritoneal cavities is another result of his research, and the great benefit derived from hot rectal injections, which far surpasses the effect of vaginal in these cases. He reports cases of pelveoperitonitis, anteflexio uteri with perimetritis posterior adhesiva, and retroversio fixata, in which the patients were cured of their pains by hot rectal injections and appropriate general measures, calomel, etc., as indicated. As an illustration of the significance of the pains his first observation of endometritis dolorosa is typical. The patient, a multipara, 40 years old, complained of frequent and extremely painful micturition, and pain during coitus and defecation; menses irregular, constipation, digestive disturbances, and hypogastric pains. The painful points were located at the tuberculum pubis on each side, on the inner surface of the thighs, at the renal plexus on both sides, and at the solar plexus and rectum. Sounding the uterus induced intense pain at the internal orifice and in the fundus. Nothing abnormal was noted in the nervous, respiratory or circulatory systems. The uterus was normal in size and consistency. The external orifice allowed the passage of finger tip. The "threefold affection", as he calls it, was in this case treated with gradual dilation, under narcosis, of the three painful orifices—anus, urethra and internal orifice of the uterus—and the latter organ packed with a strip of iodoform gauze, left for two days. In five days all the pains had vanished except in the solar plexus, where they lasted a couple of days longer. Hot rectal injections were also ordered and general tonic measures. The patient left the clinic in three weeks, cured of all her pains, and feeling well and strong. In another observation the painful points were the same as above, and also a point on the spina anterior superior. The pains were much more intense on the left side, and subsided somewhat during menstruation. The other organs and micturition were apparently normal. Coitus was painful at times. This case was treated with dilation of the internal orifice and anterior sphincterian hysterotomy as in the illustration. No narcosis was used. Tamponing was with iodoform gauze left for three days. By this time all the pains had disappeared except in the fundus, and these also soon vanished and the patient was dismissed completely



cured in ten days after operation. The painful points are to be sought by pressure, and the sympathetic connection between them is evident. He calls the emerging points of the nerves along the anterior rim of the pelvis the most important, five in all, with the renal, solar, spermatic, and superior hypogastric plexuses, the synchondrosis sacroiliaca, McBurney's point, and two spots on each side a trifle inward and downward from McBurney's point, which correspond to the most sensitive ones in the uterus. In examining these points the patient lies in the dorsal decubitus, the lower limbs together and extended. Besides these areas he calls attention to five others noted in the perineal region. One is the emerging point of the ileo-inguinal nerve; another of the superior internal cutaneous, also of the pubic nerve and, lastly, a point near the edge of the levator ani, equidistant from the anus and the opening of the vagina. Each of these thirty-two points is fraught with significance to the gynecologist, and will reward further study.

Societies.

COMING MEETINGS.

American Medical Association, Atlantic City, N. J., June 5-8.

Fifth District Branch of the New York State Medical Association, Brooklyn, N. Y., May 22.

American Medico-Psychological Association, Richmond, Va., May 22-25.

Connecticut State Medical Society, New Haven, May 23-24.

North Dakota State Medical Society, Grand Forks, May 23-24.

West Tennessee Medical and Surgical Association, Jackson, May 24-25.

Indiana State Medical Society, Anderson, May 24-25.

Association of Military Surgeons of the United States, New York City, May 31 to June 2.

American Laryngological, Rhinological and Otological Society, Philadelphia, May 31, June 1 and 2.

New Hampshire Medical Society, Concord, May 31 and June 1.

International Association of Railway Surgeons, Detroit, Mich., May 30 to June 1.

Baltimore & Ohio Association of Railway Surgeons, Atlantic City, N. J., June 1-2.

Conf. of State and Prov. Bds. of Health of N. A., Atlantic City, N. J., June 1-2.

American Academy of Medicine, Atlantic City, N. J., June 4.

American Medical Publishers' Association, Atlantic City, N. J., June 4.

American Medical Editors' Association, Atlantic City, N. J., June 4.

Association of American Medical Colleges, Atlantic City, N. J., June 4.

Medical Society of New Jersey, Atlantic City, N. J., June 4.

New Mexico Medical Society, Santa Fe, June 5.

American Association of Acting Assistant-Surgeons, U. S. Army, Atlantic City, N. J., June 6.

Rhode Island Medical Society, Providence, June 7.

Medical Association of Delaware, Rehoboth, June 12.

Massachusetts Medical Society, Boston, June 12-13.

American Association of Military Surgeons of the U. S., New York City, June 12-14.

Oregon State Medical Society, Portland, June 12-14.

Colorado State Medical Society, Denver, June 13.

Maine Medical Association, Portland, June 13-15.

South Dakota State Medical Society, Aberdeen, June 14.

Indian Territory Medical Association, Wagoner, June 19-20.

Wisconsin State Medical Society, Milwaukee, June 20.

Third District Branch of the New York State Medical Association, Binghamton, N. Y., June 21.

Second District Branch of the New York State Medical Association, Schenectady, N. Y., June 28.

Allen County Medical Society.—The election of officers for this Society, which met in Lima, Ohio, May 1, resulted as follows: president, W. H. Parent; vice-president, Frank Steiner; secretary and treasurer, Andrew Rice.

Camden District Medical Society.—At the annual session of this Society, held recently in Camden, N. J., the following officers were elected: president, J. F. Leavitt; vice-president, Wm. F. Powell; secretary, P. M. Mecray; treasurer, E. R. Ramsdell.

Berkshire Medical Society.—The members of this Society met May 3, in Pittsfield, Mass., and elected the following officers: president, W. W. Scofield, Dalton; vice-president, M. L. Woodruff, Pittsfield; secretary, L. C. Swift; treasurer. W. L. Paddock.

Warren County Medical Society.—This Society met in Monmouth, Ill., May 16 and 17. The following new officers were elected: president, Cynthia Skinner, Monmouth; vice-president, A. R. Graham, Little York; secretary, Della Nichol; treasurer, J. C. Kilgore.

Southeast Missouri Medical Association.—This Society met in Poplar Bluff, Mo., May 1. The new officers elected were: president, M. Rosenthal, Kennett; vice-president, C. F. Greene, Poplar Bluff; secretary, G. S. Cannon, Jackson; treasurer, R. F. Henderson, Jackson.

Fort Dodge District Medical Society.—At the recent meeting of this Society in Fort Dodge, Iowa, the following officers were elected for the ensuing year: president, C. J. Saunders; vice-president, T. F. Grayson; secretary, A. H. McCreight; treasurer Dr. Ristine.

South Carolina Medical Association.—This body met in Charleston, S. C., April 18 and 19, and elected the following officers: president, Geo. R. Dean, Spartanburg; recording secretary, T. P. Whaley, Charleston; corresponding secretary, A. J. Buist, Charleston; treasurer, B. E. Baker, Charleston.

Southern California Medical Society.—This Society closed a three days' session in Riverside, Cal., May 5. The new officers elected were: president, Fred Baker, San Diego; first vice-president, A. S. Parker, Riverside; second vice-president, C. M. Browning, Highland; secretary, F. D. Bullard, Los Angeles.

Union Medical Association of Northeastern Ohio.—At the 115th quarterly meeting of this Association, held in Canton, Ohio, May 2, the following officers were installed: president, T. J. Reed, Massillon; vice-president, J. F. Fox, New Philadelphia; second vice-president, Geo S. Peck, Youngstown; recording secretary, J. H. Seidler, Akron.

New York County Medical Association.—This Association will meet in New York City, May 21. Papers will be presented by Drs. Wm. M. Leszynsky, Wm. S. Gottheil, Wm. H. Bates, Herman M. Biggs, Francis Quinlan and others of New York City; Dr. S. Solis-Cohen and Prof. John B. Shober of Philadelphia.

Nebraska State Medical Society.—At the meeting held in Omaha, Neb., May 8-10, the officers elected for the ensuing year were: president, H. M. McClanahan, Omaha; vice-president, Inez Philbrick, Lincoln; corresponding secretary, H. B. Loury, Lincoln; recording secretary, A. D. Wilkinson, Lincoln; treasurer, J. L. Greene, University Place. Thirty-seven new members were added.

Arizona Medical Association.—This Association met May 3, in Prescott, Ariz. Fourteen new members were enrolled and the following officers elected: president, T. B. Davis, Prescott; first vice-president, John Dennett, Congress; second vice-president, Albert E. Ealy, Kingman; secretary, Chas. H. Jones, Tempe; treasurer, H. W. Hiram, Tucson. Phoenix was selected as the next place of meeting.

Clark County Medical Society.—This Society held its annual meeting in Springfield, Ohio, May 4. Arrangements were made for the semi-centennial celebration to be held there May 31. The following officers were elected: president, B. D. Titlow; vice-president, T. M. Reade; second vice-president, S. R. Hutchings; secretary and treasurer, C. B. Bliss.

Norfolk District Medical Society.—The fiftieth anniversary of this Society was observed in Boston, May 8. Dr.

Harold Crust delivered an oration upon the work and progress of the society, and short addresses were made by many of the guests. The following officers were elected for the ensuing year: president, F. W. Goss; vice-president, C. F. Withington; secretary and librarian, Jas. C. D. Pigeon; treasurer, E. G. Morse.

Ohio State Medical Society.—The fifty-fifth annual meeting of this Society was held in Columbus, Ohio, May 9-11. Cincinnati was chosen as the next meeting-place, and the following officers were elected to serve the ensuing year: president, F. D. Bain, Kenton; first vice-president, J. S. Beck, Dayton; second vice-president, A. W. Francis, Ripley; third vice-president, L. B. Tuckerman, Cleveland; fourth vice-president, Frank Warner, Columbus; secretary, J. A. Thompson, Cincinnati; treasurer, J. A. Dun, Toledo.

American Surgical Association.

Annual Meeting, Washington, D. C., May 1-3, 1900.

PERFORATING ULCER OF DUODENUM.

DR. ROBERT F. WEIR, New York City, used this as the subject of his presidential address, and considered it under six different heads viz.: sex, causes, frequency, age, size, and symptoms. The last was given considerable attention, and a large number of statistics and references were presented, accompanied by an expression of his opinion concerning the most important. The diagnosis was also considered in detail and the treatment from several standpoints. His experience in the surgical treatment of a duodenal perforation was confined to one case, which he described, including the postmortem findings. The paper concluded with a list of all patients who have undergone this operation up to April, 1900.

GASTRIC ULCER: NON-PERFORATING: HEMORRHAGE.

DR. WILLIAM L. RODMAN, Philadelphia, read a paper on this, and considered the subject under eight headings, viz.: morbid anatomy, etiology, age, symptoms, hemorrhage, physical signs, prognosis and treatment. Extensive statistics were given under several of the headings, and the treatment of the condition was divided into medical and surgical, the latter in turn being divided into gastrotomy and gastrotomy with curetting, cauterizing, etc.

The mortality of the various methods of treating gastric ulcer by different operators was detailed and twelve different operative measures mentioned in the treatment of gastric hemorrhage. The results of 55 autopsies in non-operative cases were given, in 17 of which occurred ulceration of the splenic artery.

The literature bearing on gastric ulcer was most carefully reviewed, and all operative cases up to date included in the summary. Gastroenterostomy was referred to as being the most generally practiced operation for hemorrhage and as likely to remain so for some time on account of the difficulty in locating the bleeding vessel. Excision is, however, the ideal operation in both hemorrhagic and non-hemorrhagic cases, and should be practiced unless there are prohibitive adhesions.

PERFORATING ULCER OF STOMACH.

DR. J. M. T. FINNEY, Baltimore, Md., considered the history, etiology, frequency of occurrence, pathologic anatomy, symptomatology, diagnosis, treatment, surgical treatment and prognosis of this condition. He said that the nature and extent of the development of a peritonitis in these cases depends on the site of perforations, their number and size, the character and amount of the gastric contents, and the number and varieties of bacteria that escape from the stomach into the peritoneal cavity at the time of perforation. Referring to the first questions needing attention in the treatment of a general septic peritonitis, he mentioned the giving or not of opium; the waiting or not until recovery from shock and the indications existing for an operation. He described the steps of the operation, as he performs it, and called attention to the fact that some of the complications which have been noted were intestinal obstruction from kinking, parotitis, phlebitis, subphrenic abscess, pneumonia and empyema. As to prognosis, he gave seven factors that played important parts: the condition of the stomach, whether empty or full, when the perforation takes place; the interval between the last meal and the perforation; the time elapsing between the perforation and the operation; the number and size of perforations; the position of the patient at the time of perforation; the perfection of the technique at the operation; the nature of the infectious agent, whether or not streptococcus or pyogenes.

MALIGNANT DISEASE OF STOMACH AND PYLORUS.

DR. WILLIAM J. MAYO, Rochester, Minn., presented this subject and stated that the curability of malignant disease depends on the histologic structure of the growth, its location, extension to neighboring structures, glandular involvement, and the general condition of the patient. He said also that in the beginning, each operation is an exploratory incision, and that this should be a methodical examination, having in view the question of radical operation, palliation, or the inadvisability of attempt at relief. The radical operations to which he referred were complete gastrectomy and pylorectomy and partial gastrectomy; the palliative, gastroenterostomy and jejunostomy, etc.

The preparation of patients for operation on the stomach and the after-care were given considerable attention. He mentioned that malignant disease of the stomach has a peculiarly depressing effect on the patient, and that ascites, even in a limited degree, is a contraindication to operation. Cases of non-malignant disease, too far advanced to extirpate and not requiring palliation, should be closed by the Halsted method. He does not consider that the results of operations limited to the pyloric end of the stomach, taken as a whole, have been satisfactory, although a few cures have taken place in exceptionally favorable cases. He referred to various methods of operating, and mentioned the suture operation of Fenger as an ideal one. The statistics of different operators were given, showing that in 31 gastroenterostomies for benign as well as malignant diseases, in only 2 regurgitant vomiting was marked, both of which were malignant.

BENIGN OBSTRUCTION OF PYLORUS.

DR. FREDERICK KAMMERER, New York City, read a paper on this subject, considering it as congenital and acquired stenosis. He divided the first into two subdivisions: acute, absolute at birth—fetal peritonitis—and congenital hypertrophy of the pylorus. The second or acquired variety, he subdivided into fibrous stenosis; occlusion of the pylorus by benign tumors; syphilitic lesions of the pylorus; gall-stones obstructing the pylorus; spastic contraction of the pylorus—hyperchlorhydria.

He then tok up the surgical treatment of benign obstruction, dealing with the dilatation of the stricture and the operative procedures, of which he mentioned three: resection of the pylorus; Loreta's operation; simple division of adhesions about the pylorus. He also discussed relative merits of pyloroplasty and gastroenterostomy, comparing the two procedures and the immediate, as well as remote, results obtained by each, giving many points in their technique.

GASTRIC DILATATION.

DR. B. F. CURTIS, New York City, considered gastroptosis. He said that gastrectasia was almost unknown except in three conditions: malignant disease, benign stenosis and gastroptosis, causing obstruction of the pylorus. This last he treated under three subdivisions: pathology—inclusive of enteroptosis; symptoms and diagnosis; surgical treatment—either gastroplication or gastroenterostomy. He considers that gastroplication is the rival of gastroenterostomy, and that gastroptosis has only recently been brought within the possibilities of surgical treatment He dwelt on the difficulties of diagnosis of these conditions, and quoted some cases *in extenso* and mentioned some of the details of the operation.

HOUR-GLASS CONTRACTION OF STOMACH.

DR. F. S. WATSON, Boston, presented an article on this subject, considering the condition under three major headings: The different forms of hour-glass stomach and the functional and pathologic changes associated with them. 2. The symptoms and diagnosis. 3. The operative treatment. Under the last he gave the indications and contraindications for the different operations, together with the reports of some of the cases operated on by gastro-anastomosis.

DIAGNOSIS OF CANCER OF STOMACH.

Dr. John C. Hemmeter, Baltimore, Md., by invitation, read a paper on this subject. The definition of the term "early diagnosis" was given. He then spoke of age, the diagnostic value, the subjective and objective symptoms, the significance of blood and hematemesis, constipation or diarrhea, the emaciation and cachexia, condition of the gastric functions, the secretion of pepsin and chymosin with the method of examining for the same, the lactic acid, and the microscopic examination of the stomach contents, etc.

GASTRIC FUNCTIONS BEFORE AND AFTER GASTROENTEROSTOMY.

Dr. Charles S. Fischer, New York City, presented an article on this subject, in which he spoke of several cases that had come under his own observation, and said that examinations of the gastric contents shortly before an operation are valueless.

STRICTURE OF ESOPHAGUS.

Dr. Frederic S. Dennis, New York City, read a paper on stricture of the esophagus, following typhoid fever and relieved by gastrostomy. He affirmed that he had had good results.

ADHESIONS OF THE STOMACH.

Dr. A. T. Cabot, Boston, made some remarks on this topic, giving the symptoms of the condition and the methods of obtaining relief.

DISLOCATION OF HIP.

Dr. Oscar H. Allis, Philadelphia, gave a series of demonstrations on the cadaver, illustrating his mechanism for producing and reducing various dislocations of the hip.

NEPHRECTOMY FOR ANEURYSM OF RENAL ARTERY.

Dr. W. W. Keen, Philadelphia, in a paper on this subject, said he had been able to learn of 12 cases of aneurysm of the renal artery, and of these, only 3 had been operated on; the first, by Albert of Vienna in 1891, the second, by Hahn of Berlin in 1893, and the third, the one in question, which was that of a woman of 45, who, having had at intervals attacks of pain in the region of the gall-bladder for four or five years, together with fever, finally observed that the right side of the abdomen was larger than the left. This tumor had developed in less than five years and without any known cause, and was, apparently, partly cystic, partly solid, painless and fixed. Diagnosis: a partially cystic tumor of the right kidney, probably due to hydronephrosis, but with a possibility of a sarcoma or other neoplasm. The operation was performed Feb. 1, 1900, through an anterior incision 17 cm. long. In less than thirty minutes the tumor was readily separated from its adhesions to the other viscera, after tearing through the outer leaflet of the mesocolon. The pedicle was so broad that it had to be secured in seven sections, the arteries were numerous and the veins enormously distended. The nature of the tumor was not recognized at the time of operation nor, indeed, until after its removal, when a section of it showed that the kidney was flattened out on the surface of a large mass, measuring, 14.5 cm. in diameter and weighing 970 grams, and that nearly all of it was made up of a mass of laminated clots, showing that it was a large aneurysm of the renal artery, a branch of which was traced directly into the aneurysm.

In only one of all the 13 cases collected was a correct diagnosis made. In at least 6 of these the cause was an injury. A recognized tumor was present in only 6, and in the other cases the aneurysm was rather of pathologic than of surgical interest. Pulsation was not present in any of the cases, due to the fact that the artery was small, the sac large and the impulse of the blood not sufficient to distend it and so produce pulsation. Hematuria is only present when the aneurysm either develops in the kidney or bursts into the pelvis. All 3 of the cases operated on by nephrectomy terminated in recovery.

TUMOR OF SUPERIOR PARIETAL CONVOLUTION ACCURATELY LOCALIZED AND REMOVED BY OPERATION.

Dr. Charles K. Mills, Philadelphia, presented the medical history of this case—one of unusual interest from the clinical, physiologic and surgical points of view. The patient was a man 56 years old, who had some neurasthenic and other symptoms since 1884, and began to have paresthetic attacks, affecting his right upper extremity, in 1894. These attacks were of irregular and infrequent occurrence, and were variously described as feelings of crawling, tingling or battery sensations. After the attacks the arm usually felt somewhat heavy, and he *frequently complained of a feeling of pressure* or *discomfort* in the head, and especially in the left frontoparietal region. Sometimes this was described as a headache, but he never had the typical headache of a case of brain tumor. Optic neuritis was absent from the first, and vertigo and vomiting were so infrequent as to call for no special consideration, but he was frequently hysterical and despondent.

About five months previous to the operation, he began to show some ataxia in the right arm, and later in the right leg; when investigation of his condition was first made all forms of cutaneous sensibility were impaired, muscular sense was lost. As the case progressed paresis and, eventually, paralysis of the arm and leg supervened and this when complete masked the ataxia. The patient developed a disorder of speech showing itself chiefly as a verbal amnesia and fatigue when he was reading. At one examination he showed a temporary partial right hemianopsia. Reversals of the color fields and contractions of the fields for form, similar to those supposed to be typical of hysteria, were present at several of the examinations. The reflexes of the ataxic and paralyzed side, were somewhat exaggerated, and ankle-clonus was present. The patient was emotional and markedly hysterical.

An operation, which was successfully performed by Dr. W. W. Keen, November 24, exposed a tumor in the exact region which had been assigned as the seat of the growth, viz., the superior parietal convolution.

The patient made a complete surgical recovery, and improved in all his symptoms with comparative rapidity; his speech completely returned, the paralysis of the leg and arm largely disappeared, and cutaneous sensibility was in time restored. He was seen last by Dr. Mills, April 24, when he found that he had regained all the movements of the extremities on the affected side, although he has not full strength in those limbs, and the muscular sense, especially in the lower extremity, is still somewhat impaired, as would be expected from the tissue lost by the encroachment of the growth.

Dr. W. W. Keen, Philadelphia, in giving the surgical history said that as the flap was not to be in the thin, squamous portion of the temple, but in the parietal, it might cause great embarrassment from a very thick skull, not only by the time required to chisel through the bone, but the difficulty of fracturing the base of the osteoplastic flap, so he first made two trephine openings 0.5 cm. in diameter at the two points between which he wished to fracture the flap. The skull was found, as had been feared, unusually thick, being a full centimeter, consequently a Gigli wire saw was passed between the two points, and the bone sawed half through in order to weaken the base of the flap. A large flap, each side of which was 10 cm. long was then made, the anterior border of it being a little in front of the fissure of Rolando; the upper border within 1 cm. of the median line.

As soon as the dura was exposed at the lower portion fluid was suspected beneath it and a dural flap was then cut, with the base upward. The tumor suddenly came into view at the anterior superior angle. It measured 5.5 cm. by 4.5 cm., weighed over an ounce, and was made up of small, granular masses like those of an ordinary raspberry, and was of a deep red or purple color. In order to remove the entire tumor, a portion of bone was removed anteriorly. The tumor had begun as a subcortical mass and then burst through the cortex. It was now separated from the brain tissue and removed in connection with a long finger-like cyst which extended, by measurement, 10 cm. into the substance of the brain, and contained from 1½ to 2 ounces of fluid. The patient made a complete and very smooth recovery, the wound being entirely well by the sixth day. On February 23, just three months after the operation, he walked up the steps of the hospital with a scarcely perceptible limp, and shook hands with ease. His speech was entirely normal and his mental condition excellent, and a week later he started for a pleasure trip on the Mediterranean.

The following officers were elected for the ensuing year: president, Roswell Park, Buffalo, N. Y.; first vice-president, John E. Owens, Chicago; second vice-president, Clayton Parkhill, Denver, Colo.; secretary Herbert L. Burrell, Boston; treasurer, George R. Fowler, New York City; recorder, DeForrest Willard, Philadelphia. The next meeting will be held in Baltimore, Md., May 7-9, 1901.

New York Academy of Medicine.

Section on Obstetrics and Gynecology, April 26, 1900.

Wm. H. Thomson, M. D., President.

PREVENTION OF DYSTOCIA.

Dr. Edward A. Ayers presented a paper entitled "The Prevention of Dystocia Due to Fetal and Pelvic Disproportion." Speaking of the value of the previous history of labors in multipara, the author advised that inquiry be made regarding the length of previous labors, the size of the children, the character of the uterine contractions, and the general appearance of the head of the infant at the time of birth—the latter with a view to forming some conception of the probable amount of head moulding that had been present. He said that it was well to remember that, other things being equal, the pelvis of *a stout woman is not so roomy as that* of one less fleshy, and that each successive labor usually bringe a slightly larger child, up to the age of 35 years, and that after this age the weight and size of each succeeding fetus is less than that of the preceding one. Another element in making the prognosis in a given case of labor is the general size and development of all the bones of the skeleton, and the width of the pubic arch. Special stress was laid on the value of the information obtainable from a method of examination during pregnancy known as tentative engagement of the head. Where there was marked contraction of the pelvic inlet, the head would lie high, and when the obstetrician endeavored with his hand to force the fetal head down into the pelvis there would be a suddenly developed and marked resistance. If, on the other hand, the inlet was fairly spacious, the head could be forced down some distance and would finally come gradually to a rest. Regarding the important subject of the induction of premature labor, the speaker said that this was a procedure which, in effect, transferred the danger from the mother to the child, and the question of the justifiability or advisability of resorting to it hinged chiefly on the extent to which the life of the child was jeopardized by inducing labor two or three weeks ahead of the natural time as compared with allowing labor to come on at full term, the child then being subjected to a difficult and tedious, and possibly an instrumental, delivery. The measures recommended for inducing labor were: 1. The use of a solid, flexible, tapering bougie. 2. The use of a small Barnes' bag to initiate the contractions. 3. The introduction of a tampon.

INDICATIONS FOR PREMATURE DELIVERY.

Dr. S. Marx read a paper entitled "Indications for Premature Delivery with Special Reference to Eclampsia—The True Toxemia of Pregnancy," in which he said that puerperal eclampsia, from the standpoint of the clinician, is closely allied to renal insufficiency, and that the quickest way to restore the health is by measures directed to the restoration of the renal function. He dwelt particularly on the fact, so little appreciated by physicians generally, that the mere determination of the presence of albuminuria is of little significance in comparison with the knowledge of the daily quantity of urea excreted, for there may be no albumin in the urine, and yet the careful and thoughtful physician may have good reason for believing that his patient is on the verge of an attack of eclampsia. The daily quantity of urea should be about 500 grains, and the progressive diminution of the quantity of urea, with or without albuminuria, should be taken as an indication for interference. He advised that all pregnant *women be subjected to a pelvimetric examination, but that* this instrument be used for purposes of comparison only, and since so much depends on the relative size of the fetal and maternal parts, he cautioned against sweeping deductions from such uncertain premises. When it is found, by pressure from above with the hand, that the head can not be made to engage, it is time to interfere.

TREATMENT OF TUMORS COMPLICATING PREGNANCY.

Dr. Brooks H. Wells read a paper on this subject in which he said that where a pregnant woman has cancer of the cervix, vaginal hysterectomy should be performed while the uterus is small; that in the early stages it is possible for the cervix to dilate sufficiently to allow labor to proceed, but extensive lacerations are likely to occur; that while a woman with fibroids is not liable to become pregnant, still pregnancy may occur, and under its stimulus the fibroids will grow much more rapidly. The higher up the tumor, and the more nearly of the subperitoneal variety, the less dangerous it is as a complication of labor, but the mortality in labors so complicated has been as high as 50 per cent. in the past. For interstitial tumors, a supravaginal hysterectomy should be performed, and tumors of the cervix should be enucleated when possible. Large ovarian cysts are not likely to block the pelvis, but their pedicles are prone to become twisted and gangrenous. If the case is not seen until labor has begun, and the operation is progressing and the cyst not impacted, the operation should be deferred until after the birth of the child. According to his *experience, abdominal operations* are well borne during pregnancy.

DIFFICULT OR DELAYED DELIVERY.

Dr. Malcolm McLean discussed the question: "When is It Proper to Interfere in Apparently Difficult or Delayed Delivery, Especially in Primiparæ?" He said that if the presenting part is high up and movable, and the pelvic measurements within the normal limits, one should not interfere, because much unnecessary damage is done to parturient women by attempting surgical interference before the soft parts have had an opportunity to properly relax and dilate.

Dr. E. A Tucker said that he makes it a practice to advise his patients to do considerable walking during the last few weeks of pregnancy, as a means of facilitating good engagement of the head.

Dr. Egbert H. Grandin said that if the presenting part will engage under suprapubic pressure, it is highly probable that labor can be completed without assistance, but when such engagement can not be effected with the hand, the physician should at once interfere. He considers the tamponade of sterile gauze the best mode of inducing labor, and the bougie the most tedious and unreliable. He has seen so many and such severe cases of puerperal eclampsia occur in women whose urine has been absolutely free from albumin, that it is his practice, just as soon as there is diminution, both of the total quantity of urine and of the urea, to proceed to empty the uterus, without waiting for cephalalgia, impaired vision and other symptoms of renal insufficiency.

Dr. S. Marx said that his own experience has convinced him that it is possible to accomplish considerable for those women who anticipate hard labors because of the large size of the child, by dietetic management, i. e., restricting the starches and sweets, and diminishing the quantity of water taken.

Dr. E. A. Ayres indorsed what had been said about the value of walking to the pregnant woman during the last few weeks, but added that while this is an excellent rule for those in good health, its observance in the case of one suffering from renal insufficiency may lead to disastrous consequences.

Chicago Surgical Society.

April Meeting.

CASE OF TENDOPLASTY.

Dr. L. L. McArthur—As Dr. Murphy is down on the program to report a case of tendoplasty, it will add to the interest of the meeting to report a case which I recently operated on. Briefly, six weeks ago a girl, in going home from school, fell on a slippery sidewalk and sustained a punctured wound between the thenar and hypothenar eminences of the left hand. It was not known whether this wound was produced by glass or ice. It was transverse in direction to the long axis of the arm and about half an inch in length. I saw her four days later, when there was tumefaction, tenderness and pain above the annular ligament of the wrist-joint. There was no fever. The tumefaction and tenderness led me to believe that she had a deep-seated tendovaginitis without superficial redness, and I therefore requested that she be taken to my clinic. On opening the wound I found that there was no infection; that the punctured wound had resulted in the severing of five flexor tendons in the position mentioned between the thenar and hypothenar eminences, and also in a complete severing of the median nerve. It then became necessary to find the retracted ends of the tendons and suture them, and it at the same time became evident that the swelling was not due to inflammation, but to the bunch of retracted tendons presented like a tumor away above the wrist, so that an incision two inches and a half in length was made, and by careful dissection the retracted ends were found, brought down and sutured. The median nerve was also sutured, and primary union obtained. She was requested to return at the end of a week, for redressing, and at that time the stitches were taken out. At the end of two weeks she again returned to the clinic and, to my surprise, had already gained sensation in the first three fingers of the hand, which had been lost at first. This was unusually early for the return of sensation after nerve suturing, the earliest instance with which I am familiar, sensation having returned prior to the fourteenth day. I made suture of the tendons in this case with fine silkworm gut, which is almost comparable to horsehair in size and is of much greater strength, and being unirritating I prefer it to silk or catgut with the possibilities of infection that go with the latter.

The question now arises in my mind as to the period at which it is safe or desirable to break up the adhesions which necessarily form in the tendon sheaths at the site of such suturing. When first sutured, she was unable to move the fingers. She now has excellent use of the flexor sublimis digitorum and can readily approximate the ends of the fingers with the thumb. Much of the flexion is due to the first action of the sublimis, and further action is to be hoped for when we have further interfered with it.

Dr. A. J. Ochsner said that some three years ago he went through the literature of nerve grafting, and he desired to bring out one point in reference to nerve suture and the sequent return of sensation, of which Dr. McArthur spoke, because this point was impressed on him at that time. He had reported seven cases of nerve suture and nerve grafting, and to his surprise he found that within twelve hours sensation returned in those cases in which the nerve had been entirely severed and in which there had been no sensation before.

Another observation which he had made and desired to mention is with reference to tendon suturing at a distance. The longest distance at which he has grafted tendons was about six inches, in a case following a railroad injury, in which the extensor tendons of the hand had been destroyed by infection. The tendon grafting was done by means of fine catgut passed from the remaining tendon above to the remnant below, and then covering it in with available fascia. This operation was done four years ago, and the man is now able to work. He has fair motion and very good extension.

Dr. M. L. Harris said that one of the most frequent causes of failure to obtain perfect motion after inflammation of the severed tendon is the fact that the cicatrix uniting the tendon blends with the one that unites the skin. Some time ago he published an article which was illustrated by a number of cases of tendon surgery, in which this point was particularly emphasized, and he advised that the surgeon should always interpose a layer of tissue between the cicatrix in the tendon and that in the skin, and that these different layers should all be sutured separately, as he found in several cases that it makes a remarkable difference in the facility with which motion is regained after these operations.

In reference to the point made by Dr. McArthur, as to the time at which to break up adhesions, Koenig goes into this subject quite thoroughly and as the result of some experimental work which he did on the union of tendons in tendon sheaths, he finds that these tendons unite in a quite similar manner to bone and likens the union to that which formed first between the divided ends of the callus-uniting bone. This callus has a union with the tendon sheath. If the union between the tendon and tendon sheath is broken up too early, the callus is excited to activity and union again occurs. It becomes adherent to the tendon sheath. He advises not to make too active motion in these cases until the callus has time to form and begin its absorption, and the period of time from the formation of this callus to its complete absorption is about six weeks. While active motion should be encouraged to a mild extent previous to this time, too violent, forcible motion should not be instituted previous to the time of absorption of the callus. The material Dr. Harris favors for tendon suture is silk, and it will remain in tendons indefinitely. He has a number of cases in which silk has remained for several years, and the tendons are perfectly movable. Surgeons should select a suture material which will stand considerable tension.

Dr. Jacob Frank said that the swelling referred to is characteristic of tendons that are cut through. He has seen two or three such cases. He mentioned one case in which he cut from high up on the forearm almost down to the knuckles to find the origin of the tendon, and the swelling after the operation quickly disappeared, whereas before it was large. He considers it a true tendonitis. He has learned that in uniting tendons, no matter if the tendon be cut through, not the slightest amount of tension should be used. The hand must be at perfect rest.

Dr. L. L. McArthur, in closing the discussion, said that in regard to the return of sensation in twelve hours after the suture of the nerve, some authorities are of the opinion that such a return is doubtful as occurring through a sutured nerve, and believe that there may have been a mistake in the diagnosis of sensation, or that it may be a collateral innervation.

In regard to the Harris method of suture, he was ignorant of it and was glad to learn of it.

As to putting in sutures that require tension to approximate the ends of the tendons, in his opinion the proper thing to do is to put these tendons physiologically at rest, to put the parts in that position which will thoroughly relax them, and in his case he took particular pains to close up the fingers, the sublimis profundus digitorum, and the wrist, bandaging so as to relax all tension. and in this way putting the parts physiologically at rest, and therefore having practically no tension on the ends of the tendons.

DOUBLE PYOSALPINX WITH INTESTINAL RESECTION.

Dr. Jacob Frank reported a case of this condition. Although cases similar to the one he desired to report are quite common, he took this opportunity to present one of double pyosalpinx with tubo-ovarian abscess complicated with such firm peritoneal and intestinal adhesions that resection of the bowel was necessary for the removal of the tubes.

The patient, Mrs. B., aged 23, gave the following history: When 17 years of age she was operated on for suppressed menstruation. She was married at 19 and aborted at the second month. From the patient's statements he was led to believe that she had gonorrheal arthritis about two years ago, although she insisted it was inflammatory rheumatism. On October 30 of last year she was taken with severe pain in the abdomen, which was very painful on pressure. When sent to the hospital, her temperature and pulse were high. For about five weeks she was treated on the expectant plan, with hot douches, stupes to the abdomen, and occasionally morphin was necessary to allay pain. Everything seemed to progress nicely, when, on the evening of November 22, she presented symptoms of intestinal obstruction, and on the morning of the 23d she was operated on. A median incision was made and a conglomerate mass of adherent tubes, ovaries, intestines and omentum was encountered. The bowel was flexed by the adhesions and looked edematous, and lying in the midst of the adhesions two small abscesses were found. Owing to the great number and density of the adhesions, which resisted all attempts at careful separation, a rent in the bowel in two different places was accidentally made during removal of the tubes and ovaries. The coil of intestines with the tears was then carefully inspected and the walls were found to be very friable and infiltrated, so it was decided to do an intestinal resection. The anastomosis was effected by means of the Frank decalcified bone-coupler, of which a one-eighth-inch size was used, the measurement having been determined by means of the Frank enterometer. The operation was completed by inserting a Mikulicz and glass drain. The patient left the table in fair condition, but under the usual after-treatment gradually grew worse, until the fourth day, when her life was despaired of, notwithstanding the fact that she had early bowel movements following enemata. At no time, however, was there any escape of fecal matter from the anastomosis. After the fourth day she commenced to improve and left the hospital on Dec. 28, 1899. The piece of rubber tubing was passed on the fifth day following the anastomosis.

DR. E. W. ANDREWS said that while he believed the Frank coupler is an improvement on any metallic device, yet the one which he used in a case was defective. Perhaps it would not be considered defective if one believes, as Dr. Frank does, that nine hours is sufficient time to get adhesion. Not believing this, however, the speaker was thoroughly alarmed at the rapid manner in which the bone parts of the coupler went to pieces in a case of strangulated hernia in which he used the coupler, although the patient fortunately recovered. In this case he had resected eighteen inches of the intestine. On the following day Dr. Frank demonstrated a new coupler before his (Dr. Andrews') class. The second day after the demonstration Dr. Andrews killed the dog to get the specimen, and he was alarmed to find that the bony parts of the coupler had softened to the consistency of white paste and had flattened out. The bowel was held fairly well by the four stitches which he had put in the form of a quadrant of a circle. Personally, Dr. Andrews does not believe that adhesion strong enough to hold the bowel takes place in six hours, although it may do so in connection with a row of Lembert stitches.

DR. JACOB FRANK said the couplers can be made to absorb just as readily as catgut if they are formalinized or chromicized, and will come away just as the metal buttons do, but he has not found any need of doing this. The coupler which he used in the demonstration before Dr. Andrews' class was one he brought from Europe, which was made of bone, chemically prepared, and was not as good as the average coupler made in this country.

Kansas Medical Society.

Thirty-fourth Annual Session, held in Topeka, Kan., May 2-4, 1900.

Dr. Charles Gardiner, Emporia, president.

ADDRESS OF PRESIDENT.

DR. CHARLES GARDINER, Emporia, in his presidential address, decried patent medicines and physicians who use and endorse them. He paid a glowing tribute to Dr. Benjamin Rush and urged the Society to see that Kansas should contribute her full share to the erection of a monument to his memory.

COMMITTEES AND RESOLUTIONS.

A committee composed of Drs. B. D. Eastman, W. T. Sawhill and W. L. Schenck was appointed to draw up resolutions on proprietary medicines. A resolution was passed, presented by the Douglas County Medical Society, to have a committee appointed to endeavor to secure pure foods and medicines by legislation.

A committee of five was also appointed to draft and present to the next legislature a bill for the protection of regular practitioners from the inroads of quacks and other impostors.

A resolution having in view the appointment of a national board of examiners, certificates from which would entitle the holder to practice anywhere in the United States, was defeated.

The next meeting is to be held at Pittsburg, Kan., May 2-4, 1901. The following are the officers for the ensuing year: president, J. W. Porter, Pittsburg; first vice-president, J. P. Lewis, Topeka; second vice-president, C. P. Shafer, Topeka; corresponding secretary, J. W. May, Kansas City, Kan.; treasurer, L. H. Munn, Topeka; librarian, S. G. Stewart, Topeka.

There were forty-eight papers read during the session, covering a wide field of professional work.

STATE CONTROL OF TUBERCULOSIS.

DR. W. E. MCVEY, Topeka, in a paper on this subject, said that the laws to regulate and control bovine tuberculosis have not been passed on account of the danger of human tuberculosis resulting, but for financial reasons, as healthy herds are more profitable, while the laity does not realize the danger that really exists from infected herds.

DR. R. S. MAGEE, Topeka, said that when the city's health board is notified of a tubercular patient dying, or moving from a house, that house is immediately and thoroughly disinfected. This has been the rule in Topeka for some years, and it should always be done.

OCCIPITO-POSTERIOR PRESENTATION IN LABOR.

DR. J. DILLON, Eureka, read a paper on this subject. He advises, when flexion can not be secured, the use of extreme extension and delivery chin first, a method which is practically unknown.

DR. G. A. BOYLE, Louisburg, spoke of one case in which he had used that method and in which the eyes of the child protruded extensively, but in about ten days there were no indications on the child of the difficult labor.

SPECIALIZING.

DR. L. REYNOLDS, Horton, read a paper on "How Much of the Specialties Shall the General Practitioner Do?" He thinks physicians should know more about all the specialties and not send so many patients away, when they should know how to treat them.

DR. J. W. MAY, Kansas City, Kan., said that he has found that the general practitioner is becoming more of a specialist every year and getting more knowledge on all branches.

VACCINATION.

DR. T. W. PEERS, Topeka, in his paper, considered modern vaccination, and gave experience in caring for the city patients during the recent epidemic of smallpox. He vaccinated about 1200 and believes in frequent vaccinations. He recommends that legislative enactment provide for the repeated vaccination at stated short intervals, by the city physician, of every man, woman, and child in every city having such an officer. It is much cheaper and more satisfactory to all than to provide and maintain quarantine for a single smallpox patient in each county.

New York County Medical Association.

April 16, 1900.

Frederick Holme Wiggin, M.D., President.

PREVENTION OF INTRACRANIAL AND INTRAVENOUS COMPLICATIONS IN SUPPURATIVE DISEASES OF EARS.

DR. J. H. WOODWARD read a paper with this title, to be printed in THE JOURNAL.

DR. FRANCIS J. QUINLAN showed the gravity of otitis media by calling attention to the fact that it was the custom at the present time among the large life insurance companies to decline to accept as a risk any person having a chronic suppurative process of the middle ear above the short process. A mastoid operation should be entirely within the reach of the skill of the average general practitioner. It is most important that it should be done thoroughly, all of the cells being laid open.

WHAT ARE THE ULTIMATE RESULTS IN TREATING CANCER OF THE UTERUS? WHAT IS THE BEST PLAN OF TREATMENT?

DR. HOWARD A. KELLY, of the Johns Hopkins University, Baltimore, Md., read a paper on this topic. It appears, with the discussion, in this and next week's issues.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
61 MARKET STREET, - CHICAGO.

SATURDAY, MAY 19, 1900.

THE ATLANTIC CITY MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

The meeting of the American Medical Association at Atlantic City, N. J., next month, promises to be one of the best attended of any yet held. While the West may not be so well represented as it would be were the place of meeting more centrally located, the attendance from the Eastern States will be greater than even at the Philadelphia meeting, judging from reports. The committees at Atlantic City are sparing no pains nor expense to make the meeting a successful and an enjoyable one. The hotel accommodations are ample and no fears need be had on this account.

Railroad rates—one and one-third on the certificate plan—are not satisfactory, as nothing short of half rates ever will be. It would seem that an association whose meetings are as largely attended as are those of the American Medical Association ought to be granted half rates on merely asking for them, but the various passenger associations seem to think differently. Every effort to obtain half rates was made by the Committee, but the peculiar location of Atlantic City, as far as railroads are concerned, made these efforts of no avail this year. The time allowed, however, is longer than usual, and this is something for which to be thankful.

The programs of the various Sections, printed in this issue of The Journal, indicate the character of the scientific work which may be expected. Evidently the officers of some of the Sections have found it impossible to limit the titles of papers to the number recommended by the Association at the Columbus meeting, and if all the papers are read it will mean the utilization of every minute allotted to Section work. The quality, however, is not lowered on account of the quantity in this instance, as the names on the various programs will testify.

At various times in the past attempts have been made, unsuccessfully in each instance, to have the delegates occupy a certain part of the hall in which the meetings were held. This year, instead of repeating this attempt, a distinctive badge will be provided. One will be given to each delegate at the time of registering, on presentation of credentials signed by the secretary of the society which the delegate represents. Members attending as delegates are therefore earnestly urged to have their credentials with them at the meeting. The Association has now become so large that a strict compliance with the constitution and by-laws seems desirable, if not necessary. It is understood that only delegates have the right to vote in the general sessions.

THE GENERAL PRACTITIONER AND THE TECHNIQUE OF PATHOLOGIC EXAMINATION.

The so-called laboratory methods in clinical diagnosis are of fundamental importance to the general practitioner, the general surgeon, the specialist, and the hospital physician alike. The necessity of the hour is to make it possible for the individual to make as full personal use of these methods as is consistent with reliable and thorough work. It is seen at once that no one is in greater immediate need of clinical laboratory methods than the general physician, and above all the general physician in the country, more or less remote from large cities. The fact is that the introduction of laboratory methods in clinical diagnosis has greatly increased the already heavy responsibility of the general practitioner. The patients in the country are entitled to the same advantages of these new methods—the earlier, more definite diagnosis and all that that means—as the more fortunately situated dweller in the city; and the community and country at large demand the same prompt protection from communicable diseases, now more surely and earlier recognized, as the more watchful city with its health inspectors, municipal laboratories, and public disinfecting apparatus. The patients in the country can not afford to wait for the report of the laboratory specialist in the city and in many cases they can not be expected to pay the extra expense thus incurred.

The general tendency, in hospital and city practice, is to bring the laboratory and clinic into the closest possible relationship. The true clinician is no longer as fully satisfied as formerly with receiving his laboratory information at second hand. The better hospitals are beginning to establish small, clinical laboratories in connection with the various hospital services or wards as distinguished from the larger, more purely pathologic laboratory. Public and dispensary clinics are making provisions for laboratory facilities of their own because they recognize fully the great advantage of obtaining the information of the microscope and of the test-tubeat first hand, of bringing it into immediate correlation with the clinical manifestations and the peculiar chances of error and of delay to which such information is unquestionably subject when it has to be filtered through the mind of another person, working not in the atmosphere of the clinic but of the isolated laboratory, and private practitioners are beginning to realize that clinical laboratory work in their offices is not at all incompatible with other work. This is self-evident. There is no reason why the practitioner should not be trained in the relatively simple details of clinical laboratory work as well as in the technique of physical examination, of the use of the ophthalmoscope, the laryngoscope, and of surgical cleanliness. There is no good ground apparent why a competent practitioner should not rely on his own examination of the sputum or of the blood in the majority of cases requiring such examination just as he relies on his own physical examination in the majority of them. Why always accept unhesitatingly the verdict, as so commonly done, of the laboratory specialist any oftener than the verdict of the specialist in "diseases of the chest?" Surely things have not come to such a condition that the practitioner must rely wholly on specialists.

If we place so much faith in laboratory methods in clinical diagnosis it is clearly our duty to bring the laboratory facilities as close at hand as circumstances permit, and that is right into our offices and our wards and our clinics. Right here the objection may be raised that thorough laboratory methods are too time-consuming, too complicated for every-day use. But all thorough work is time-consuming. A practitioner who has not the time to do his work thoroughly because of the pressure of a large and extensive practice can well afford to surround himself with young and willing assistants whose work he can supervise and control. In this problem enters also the whole question of organization of the machinery of a practice, and that is a large question which each individual must solve for himself. Laboratory methods may seem complicated to the uninitiated, but to the schooled men they are not too complicated to prevent their daily and constant use. On the other hand, considering the value of the results obtained when rightly used, they must be said to be on the whole quite simple and direct. The first requisite is good training. This the better medical schools and hospitals are now endeavoring to furnish our students, and the larger cities are offering physicians abundant opportunities in the way of post-graduate courses to acquire the knowledge and the skill that their early training and situation may have failed to supply. The next thing is suitable apparatus, the most important single item of which is a reliable microscope, then come a few stains, minor implements, and such special things as blood instruments, etc. The necessary facilities for clinical bacteriology are within comparatively easy reach. It is acknowledged that the question of culture-media may be an awkward one; they may be bought ready-made, however. In the bacteriologic laboratory the "greenest" student generally succeeds fairly well in making the more common ones the first time he tries. It may be that by placing himself in communication with the nearest bacteriologic laboratory the general practitioner, for a small outlay, could receive a fresh supply at regular intervals.

Surely it would not be too much to expect that the general practitioner, as well as the specialist, should be well enough trained to rely wholly on his own chemical and microscopic examination of the urine and to understand fully the importance of examination of the urine of patients in general and of those with certain special symptoms in particular. This, we believe, is even now fairly well recognized by the intelligent and careful physicians.

The methods of examination of the gastric contents are also within the grasp of the man in general practice.

As regards the blood, the estimation of hemoglobin, the counting and staining of the corpuscles, and the study of the fresh specimen are absolutely requisite for the diagnosis or exclusion of a number of diseases, such as chlorosis, pernicious anemia, leukemia, and malaria. It is true that in many cases a diagnosis may be made from the grosser clinical manifestations, but a complete inspection is always desirable, because it furnishes a moral support that makes the professor the master of the situation; and then there are the obscure cases that baffle solution even at the hands of the true expert. All true physicians would be thankful to know that all means within their reasonable powers may be resorted to. The conscientious use of laboratory methods soon brings home a lively sense of the real limitations of one's abilities that discourages dishonest work and the pernicious habit of guessing.

The importance of bacteriologic methods in clinical medicine needs no emphasis. The early recognition of pulmonary tuberculosis by the demonstration of the bacilli in the sputum may save suffering, expense, and even life. In view of the omnipresence of the disease and of its devastation of human life, he must be a callous individual indeed who does not arm himself thoroughly for the struggle against tuberculosis that he feels in duty bound to take up in dead earnest when he assumes the care of the health of his fellow-men. A good microscope, a little carbol-fuchsin, clean slides, and a keen sense of responsibility are essential for successful war against "the white plague," and the outcome of the first encounter rests with the general practitioner.

The definitive diagnosis of diphtheria, in its inception either as a single case or as an endemic, rests largely on the bacteriologic demonstration of the diphtheria bacillus. Should not the general practitioner in the country and the small town where there is as yet no municipal laboratory be competent to settle this question? Will not the settlement of this diagnosis, and similar ones, redound to his great credit?

Among other bacteriologic tests of great value may be mentioned the staining of gonococci in the urethral and other exudates, and the demonstration of tubercle bacilli in feces, in urine, and in pathologic products of various kinds. By following the rule laid down in the extensive article on "The Smegma Bacillus," that has just appeared in The Journal, there should be no danger of confusion of the tubercle and smegma bacilli. The bacteriologic examination of cerebrospinal fluid obtained by lumbar puncture, and of pleural and other inflammatory exudates, may yield information of decisive importance in diagnostic and prognostic problems.

One of the simplest technical methods in clinical diagnosis is Widal's reaction in typhoid fever. It is essential to have a fresh culture of the typhoid bacillus on hand, and in times when typhoid is frequent the physician would do well to secure the necessary tubes for frequent transplantation. It is essential to know the limitations of Widal's test, and questions of that sort are frequently discussed in our leading journals.

Animal inoculations may be practiced when necessary in order to clear up obscure conditions. Rabbits and guinea-pigs are not difficult to obtain. In case the practitioner does not care to keep a stock on hand a little inquiry will determine a satisfactory source of supply. Suspected local tuberculous processes frequently demand inoculation of guinea-pigs. The operation is simple indeed, the essential requisite being ample precaution against contamination and accidental infection with extraneous microbes.

As regards pathologic tissues, such as tumors and inflammatory productions, one can say that there is no essential reason why a practitioner should not himself fix, imbed, cut and stain the material, and study it microscopically. In case this is not feasible then we certainly have the right to demand that the physician should be familiar with the proper methods of preserving the material preparatory to sending it to the pathologist. The slovenly manner in which pathologic material frequently is treated often renders the result of the microscopic examination everything else than satisfactory.

We plead for a more extensive adoption of laboratory methods in practice. It is feasible. It introduces into routine work a feature that is eminently useful at the same time that it is interesting and enjoyable. It brings the physician a few steps nearer to the secrets of disease. It renders the physician a degree or two less dependent, greatly increases his usefulness, and puts him in touch with his own era. And the young physician, starting out fully equipped to introduce laboratory methods into his practice, at once puts himself at a decided advantage over his competitors who disregard these modern refinements, but who in the eyes of the community, which is quick to see such things, soon reach the unenviable distinction of being regarded as "back numbers."

NEPHRITIS WITHOUT ALBUMINURIA, IN YOUNG CHILDREN.

He will be the most successful diagnostician who early disabuses his mind of the existence of pathognomonic symptoms. The physician, above all men, must train his powers of observation in search of the unusual, the unexpected and the atypical. Apparent paradoxes in medicine are not rare. Thus, febrile disorders are at times unattended with elevation of temperature, epilepsy with the occurrence of convulsions, uremia with the development of coma, nephritis with the presence of albumin and tube-casts in the urine, diabetes with glycosuria. It is true that such occurrences are exceptional, but it is only by an appreciation of their possibility that error is to be avoided. The belief that nephritis may exist without the presence of albumin and tube-casts in the urine receives support from some observations made by Cassel,[1] who reports a series of nine cases in children in whom, in the absence of disease of the heart, and without a previous history of scarlet fever, widespread anasarca was present, in three also with ascites, while the urine was free from albumin and abnormal morphologic elements.

In two of the three cases that terminated fatally, post-mortem examination disclosed the existence of nephritis. The patients were all young, one being 7 weeks, four 2 months, one 5 months, one 1½ years, and one 2½ years old. In some the anasarca was present when the children came under observation, while in others it developed during this time. The dropsy appeared first in the face, then invaded the dorsum of the hands and the feet, extending to the legs and the thighs, the scrotum or the vulva, and at times to the dependent portions of the back. In two cases the edema had been preceded for two weeks by a vesicular eruption, probably varicellous. In a third case measles developed after the dropsy had been present for two weeks, but the latter was uninfluenced by the complicating disorder. In five cases, however, the hydrops had been preceded by digestive disturbances of acute or subacute character. In one case no etiologic factor whatever could be elicited. Scarlet fever could be excluded with certainty in all. Four cases terminated in recovery in from four to six weeks. In two the results could not be learned and in three death occurred. The urine, obtained by catheterization at different times of the day and night, was pale, of acid reaction and low specific gravity. Tested with acetic acid and potassium ferrocyanid, and by the nitric-acid contact method, it failed in every instance to yield the response for albumin. There was no sediment and none could be obtained on centrifugation. Cassel has succeeded in collecting, from the literature, reports of a number of observers who relate cases of nephritis in which albumin and sometimes also tube-casts could not be found in the urine. In these cases, however, the renal condition was usually a sequel of a preceding disease, such as scarlet fever principally, but other exanthemata also were antecedent in some cases, such as chicken-pox, measles and typhoid fever. It is possible that other infectious diseases also may be attended with the same sequel. The suggestion has been made that the hydrops under the conditions just considered is due not to disease of the kidneys, but to increased permeability of the blood-vessels and the lymphatics of the skin, serous membranes and mucous membranes. A similar explanation may also be applicable when the anasarca attends gastrointestinal disorders, although it has been shown that these may give rise to actual nephritis.

MEDICAL RECIPROCITY.

The necessity of uniformity and reciprocity in medical standards and state qualifications for practice is daily becoming more and more evident. Medical reform is in the air, but it progresses everywhere, largely on distinct lines, and the results are therefore in some regards not all that could be wished. One state does not recognize the qualifications of another, and vice versa, and the outcome is discord and a reflection on the medical standards and the general status of American medicine. If we discredit each other individually, outsiders will discredit us collectively. Aside from this there are still more obvious disadvantages in this lack of reciprocity, not the least of which is the need of re-examination on change of residence, and the manifold inconveniences it involves. Everybody must admit that a uniformly high standard is the ideal and that even the suspicion that we fall short of this reflects discredit on us all. If New York will not recognize Pennsylvania's qualifications, Pennsylvania may retaliate in kind on New York, and both reject those of other parts of the country, and outsiders ignore the whole. It is true that in many states the law authorizes reciprocity in this matter of medical qualifications, but this does not materially improve the case. If the Federal government could assume the control of medical practice, this would be the simplest solution of the problem, but it is one of the disadvantages of our national organization that the Federal jurisdiction is limited in this regard, and it would not be altogether advantageous to our profession in any sense, could construction be placed on certain passages of the Constitution to make them include such jurisdiction—they would include too much.

---

[1] Berliner Klin. Woch., March 5, p. 213.

We have before us the more complicated and difficult task of securing uniform action of the different commonwealths that make up our Union. To do this will require the united action of the medical profession and this, properly exerted, would be invincible. It can only be thus exerted by united action of authorized representatives of all states acting together in a definite, organized body. Anything short of complete uniformity in the medical laws of the various states will be only a partial success, and should not be even the alternative ideal. The difficulties in the way need not be ignored, but they are not insuperable and ought only to stimulate our efforts. There is hardly any subject that more deserves to be seriously considered at the coming meeting of the ASSOCIATION, and we trust it will be thoroughly handled and measures initiated to this end. Two things are certain: One is that this reform must be brought about, the other is that it must be done by the medical profession. As long as each state has its own independent standards and produces physicians only fitted to them, the reputation of American medicine as a whole will continue to be depreciated as in the past.

ALCOHOL IN THE TROPICS.

An army surgeon, in a paper in one of our contemporaries,[1] has expressed the opinion, contrary to that issued from the army headquarters, that the use of intoxicating drink is essential to continued health in the tropics; and another, a surgeon of volunteers, in the same issue, though his opinion is modestly given as the result of only one year's experience in active service in the same region, maintains the directly opposite view; he is certain that, as Americans drink it, strong liquor is injurious. The native liquor of the Philippines causes, he says, in its habitués, loss of appetite, fever and diarrhea, and the same results from the irregular American habit of drinking generally. His belief is that "the use of liquor in any form in the tropics is unnecessary, except it be the red wine issued by the Spanish Government to their troops." Judging from the condition and efficiency of the Spanish troops this would not seem to have helped them much. The doctors, however, do not disagree in this matter more than do experienced laymen. In a very limited tropical experience we have heard the most divergent views on this subject from white men there resident, and some who favored alcohol in one form insisted on its deadliness in another. There would seem to be hardly any question of tropical medicine much more important than this, and the burden of proof is certainly on those whose views are opposed to the generally received opinions and statements of authorities.

PRIMARY SARCOMA OF THE INTESTINE.

Based on 29 cases from the literature and three personal ones—32 in all—of primary sarcoma of the small intestines, Westermark[1] gives the following general statements concerning this form of tumor. As regards frequency, Smoler's statistics show primary sarcoma of the small intestine 11 times in 13,036 autopsies, a percentage of .08. The majority of the recorded cases occurred in persons of the poorer classes. The tumor may be congenital; it has been observed at the age of 70; it is more common before the fortieth year. Of the 32 cases but 8 occurred in women. The growth usually begins in the submucosa, whence the outer coats are involved, the serous remaining intact the longest. At times the growth is nodular, forming subserous masses of varying sizes; or it may appear as a flat, circular infiltration of the intestine, part of which appears to have changed into sarcoma tissue; at other times the growth encroaches on the lumen of the intestine, forming submucous and subserous outgrowths. In a small proportion of the cases the sarcoma has occurred as multiple tumors. Retrogressive changes and hemorrhages are frequent, beginning either on the mucous surface of the tumor or in its interior. Soft tumors may give rise to dangerous intraperitoneal hemorrhages from rupture caused by ordinary palpation. Generally the lumen of the intestine corresponding to the tumor is dilated, the wall losing its elasticity and contractility; in some cases the dilation was very pronounced. In one of Westermark's cases there was an invagination of the degenerated region into the healthy intestine below. The lower part of the small intestine is more frequently involved than the upper part, and round-celled sarcomas are the more common. The course is rapid, and metastases form early. The most pronounced symptoms are cachexia and loss of strength. In one case of removal by operation the patient remained well for a year, but little is known concerning more remote results. In most of the cases operated on recidivation has occurred in a short time.

---

[1] Phila. Med. Jour., April 7.

[1] Phila. Med. Jour., April 7.

STATE ENDOWMENT OF MEDICAL EDUCATION.

A distinguished New York physician and medical educator is quoted as saying: "I hold that the state ought to furnish sufficient funds for the adequate and thorough instruction of all the pupils in every medical institution already legally organized, and for such others as the increase of population may cause to be established under the regulation of the state." It would be injustice to the gentleman to assume that this was other than an undeliberated utterance, since he and every one else in the profession must realize that it would be a very extensive contract for the already burdened public to assume the support of the numerous medical colleges of the country. If there is one thing in which American medical education leads the world, it is in its quantity, but we do not congratulate ourselves on this fact. What we need is improvement in quality, and it would be no loss if three-quarters of the hundred and fifty, more or less, medical colleges of all sorts in this country should go out of business. What the doctor probably meant, but what unfortunately it appears he did not say, was that the state should insure a uniformly thorough scientific medical education in those seeking it, and this necessarily implies a regulation of the standards of education that would be fatal to the success of many of the minor institutions that can command neither the clinical facilities nor the teaching ability that would be required. Whether this can be done uniformly in all the different commonwealths that make up our country is a problem that remains to be solved; that it is desirable no one questions. His remarks also implied that the state should endow and encourage scientific medical research, another thing to be desired, and which it can do to a certain extent though not so universally as he would seem to think. What we do need is endowment of medical instruction, and lifting it above what it is at present to too great an extent in this country—simply a means of nonprohibited medical advertising. Our medical colleges have been too long originated and conducted as business investments, not always for their direct returns, but to supply from their output a consulting clientele for their professors. The stock company medical college, described by a prominent neurologist in the '70s, was a caricature with a broad family likeness to many of the institutions of the time, and there are still in some quarters relics of the same features amongst the medical colleges of to-day.

TUBERCULIN THERAPY.

The use of tuberculin in the human subject, either for therapeutic or diagnostic purposes, has as yet no recognized standing with the profession, and there is a very wide-spread suspicion that it may sometimes revive latent foci and thus arouse at once, what is for the time, at least, a harmless condition into a dangerous state of disease. It has, however, its advocates, and among them we may include, in a somewhat qualified sense, Dr. Edward R. Baldwin,[1] Saranac Lake, N. Y., who thinks that clinical experience, as well as experiments on animals, shows that it "can favorably influence a pure localized pulmonary tuberculosis and lupus in a well-nourished afebrile patient," but does not, he says, presume to decide whether tuberculins of any sort should be favored for limited therapeutic employment in the light of our present knowledge. This is, indeed, a very qualified endorsement, but it leaves the decision of the question to the individual therapeutist, who can use it to justify himself in any course he may adopt. It should be added here, however, that he thinks it obvious that this treatment should be limited to institutions, and that the patients should be observed through a series of years. He considers that the action of the tuberculin is in aiding the defective powers of the organism by stimulating the secretion of ferments which attack the tuberculous toxins. It is not established that they are more effective in this way than certain other irritants, such as cinnamic acid or nucleins, but the possibility of producing a toxin immunity makes it more rational to employ a specific irritant. The difficulties and the dangers, however, of thus obtaining any immunity from tuberculins are, he admits, such as leave it practically out of consideration. The question is, therefore, reduced to whether or not we can aid Nature in her contest with the tubercle bacilli by measures that increase hyperemia and absorption. He answers this with, as usual, a qualified affirmative, and quotes, as instances, the effects of laparatomy on tubercular peritonitis, Bier's method of treating tuberculous joints by manipulation, and the action of the X-ray on lupus. The serumtherapy of tuberculosis is mentioned, in conclusion, as still in the experimental stage; and Baldwin is not without hope of results of practical value.

Medical News.

DR. A. GARCELON'S ANNIVERSARY.—We clip the following, concerning the president of the Board of Trustees of the AMERICAN MEDICAL ASSOCIATION, from the Lewiston (Me.) *Journal*:

"Dr. Alonzo Garcelon, of Lewiston, who needs no introduction to the people of the State of Maine, will measure his eighty-seventh milestone on Sunday, May 6. The *Journal* and the citizens of Lewiston and Auburn congratulate the Doctor upon the unusual health and strength which he enjoys to-day. Robust and vigorous, Dr. Garcelon still carries on his practice in these cities and in the surrounding country, and is as light of heart and as jovial company as in the years long gone by. His familiar figure is one that attracts attention upon the streets, being of statesmanlike type of such an earlier period in American history as that of Henry Clay, Calhoun and Webster. Then another characteristic of the Doctor is his great love of good horseflesh. In his stables have always been found some of the finest blooded animals in the two cities, and his old-fashioned chaise has always followed some mighty fast clippers over these country roads. A great lover of travel of any kind, Dr. Garcelon, only this year, made a trip west, covering over 6000 miles. After attending a medical meeting at Chicago, he enjoyed a little side journey for pleasure, to Denver and other places in Colorado, where he was entertained right royally by his many friends. On his way back, Minneapolis, Chicago, New York and Boston were visited, the whole trip being of several weeks' duration. While in Denver, the Doctor had occasion to call upon some friends, but, not having announced his coming, he found them in the midst of a dinner party. The welcome was most cordial. The hostess escorted the Doctor into the dining-hall, and he at once became the most honored guest of the occasion. Introductions were made, and Dr. Garcelon for over an hour entertained the party with delightful reminiscences and stories gleaned from his long and active service in the world. The whole event is said to be one of the happiest in the memory of those present. Again we congratulate the Doctor. Long live one of our most esteemed citizens!"

---

[1] Phila. Med. Jour., May 5.

INTERNATIONAL ANTITUBERCULOSIS CONGRESS.—More than 1200 members assembled at this congress, in Naples, April 25 to 28, a brilliant gathering of the scientists of continental Europe. It was more especially a trinational than an international assembly, as not a single American or English name appears on the official program of addresses, although all nations were officially represented on the platform. Among these representatives our correspondents mention the names of Drs. Heiser and Willson of this country. In his opening address Baccelli stated that Italy is the most favored land in Europe in respect to tuberculosis, quoting statistics to show that in 1894, when Prussia lost 71,000 inhabitants from tuberculosis and Austria not less than 88,000, the deaths in Italy from this cause were 30,000. He added that old healed tuberculous lesions are found at a third at least of the autopsies in Italy, showing the marked tendency to recovery from the disease in that climate.

De Renzi outlined "The Present Status of the Treatment of Tuberculosis," placing all drugs in the second rank far below prophylaxis and hygienic measures in importance. The two medicines that are considered most effective are creosote and iodin, but the only effect of the creosote is to diminish expectoration, as it would be impossible to administer it to a patient in amounts sufficient to actually destroy the Koch bacillus. It benefits the sympathetic bronchitis but has no influence on the tuberculous processes at practicable doses. Iodin has evidently a favorable effect on local tuberculous processes, but has given conflicting results in experimental research. The Maragliano serum may prove beneficial in light cases. Patients with moderate tuberculosis, under treatment with this serum do not react as usual to injections of tuberculin, which demonstrates that they have acquired a certain resistance to the bacterial toxins. De Renzi's experience with "thiocol Roche" during the last year has been extremely favorable, and he considers its action superior to that of creosote or guaiacol. He concluded by reporting the excellent results he has attained with electric-light baths. Nine patients have been cured and others improved. The beneficial action may be due to the sweating induced. He has established that the sweat of tuberculous subjects is more toxic than in health. Besides the disappearance of all the morbid phenomena, injections of tuberculin failed to produce any reaction after this treatment. He recommends it as a valuable adjuvant to the indispensable hygienic measures, among which he includes pure air, absence of fresh infection, abundant food and gentle exercise. He does not approve of too much repose, and observes that confined air produces an intoxication of the organism which renders it a peculiarly favorable soil for the development of the Koch bacillus.

Senator exhibited a device for disinfecting the air in industrial establishments, and Ausset proposed that all houses for rent should keep a health record book to serve as a sanitary passport for the habitability of the house. The organization of special tuberculosis dispensaries in cities was advocated by several, and it was observed that sanitarium and dispensary treatment is only a fraction of the task to be accomplished, which should include the support of the patient's family and change of occupation.

Santoliquido, the chief of the sanitary service in Italy, announced that steps are now being taken for the compulsory notification of tuberculosis in poorhouses, dairies, etc., and also in cigar factories. Tuberculous employees are to be excluded from the latter and the state will provide a support for employees thus deprived of a means of earning their livelihood. The Congress voted to establish a permanent trinational committee for the campaign against tuberculosis, and the Duke von Ratibor was appointed to represent Germany; Lannelongue, France, and Baccelli, Italy. They are empowered to elect an equal number of coadjutors to form the "International League Against Tuberculosis."

The numerous festivities included a trip to Pompeii, where the excavations have been carried on of late with enthusiasm and skill, under the supervision of that eminent member of the profession, Guido Baccelli, who, in his official capacity as minister of public instruction, has had the domestic life of Pompeii resurrected by restoring the famous Vettio mansion, discovered in 1894-95, which has many features of peculiar interest to physicians and sanitarians. The Exposition of Hygiene was inaugurated about the time of the Congress.

NEW YORK.

UNSANITARY PRISON CELLS.

A report on the condition of our state prisons has just been made by a committee consisting of Drs. Austin Flint, J. G. Phelps Stokes, J. Murray Mitchell, J. Seeley Ward, Jr., Eugene Smith, F. P. Bellamy, Henry E. Gregory and William M. F. Round. Referring to the cells at Sing Sing, the report says that the size of the ordinary cell is 3 feet 3 inches by 6 feet 6 inches in height, and 7 feet long, and that there are 1200 of these in a room 60 by 400 feet. In addition to this insufficient breathing-space, the lighting by day is poor, and the prison is overrun with vermin. Auburn prison is not quite so bad, but it is poorly lighted and ventilated, is dangerous in case of fire, and has insufficient sanitary arrangements. Dannemora prison is described as being much cleaner and better in every way, though not what it should be. The discipline was noted to be decidedly lax in Sing Sing, a little better at Dannemora, and excellent at Auburn. This committee, which was appointed under the authority of the supreme court, declares these prisons to be a disgrace to a civilized community.

New York City.

A NEW FIVE-STORY brick and limestone building, costing about $125,000, is to be erected for Beth Israel Hospital.

A MAN, 65 years of age, recently died here of exhaustion from persistent hiccough, which had lasted about a week, and had resisted all attempts at its control.

THE QUARTERLY report to the president of the Board of Health, for the period ending March 31, shows 221 deaths from la grippe, as against 263 from that disease in the same period of 1899; also 2486 from pneumonia, as a[illegible], 1654 in 1899.

GIFT TO FLOATING HOSPITAL.

Mrs. Augustus D. Juilliard, who has already given the new floating hospital—the *Helen C. Juilliard*—to St. John's Guild, has now donated $50,000; the interest from which is to be used in defraying the expenses of this hospital. The guild has been still further aided in its work by a gift of $9046.89 for the erection of a new cottage at the Seaside Hospital, New Dorp, S. I., given by Mrs. Frederick Elliott Lewis in memory of her little son. In the summer of 1899 the guild expended $60,000 in the care of 82,842 infants, and it proposes to increase its work the coming season.

CONFERENCE ON CHARITIES.

An informal conference on charities has just been held. Dr. George G. Wheelock presented a paper discussing the topic, "Are Public Institutions Adequate to Public Needs?" He said that while there has been some improvement in the department of charities since it was separated from the correction department, still this improvement has been very slow. There has been a decided decrease in the number of inmates in the almshouse, there having been, on Oct. 1, 1899, 743 vacant beds, and there is great need for a convalescent hospital. Fordham Hospital he characterized as "a lamentable instance of an unwise if not culpable expenditure of the city's money." Charities Commissioner Keller, in his address, declared that the most glaring need in his department is a new building to take the place of the miserable and outrageous makeshift now known as the Harlem Hospital.

PENNSYLVANIA.

Work has been commenced on the new wing of the Lackawanna Hospital at Scranton.

A resident of Erie was bitten by a cat about five weeks ago, and died May 11 with symptoms of hydrophobia.

Two children living at Allentown swallowed a quantity of butter coloring matter, from the effects of which toxic symptoms developed and one child died.

A man, aged 50 years, who had for nearly ten years been isolated at the county house near Media, died on May 9. He came to Pennsylvania in 1887, and, knowing that he had leprosy, jumped from the vessel as it was coming up the Delaware River, and swam ashore to escape the sanitary officers. He stated that he had inherited the disease from his mother.

Philadelphia.

Charles Lawrence, superintendent of the Philadelphia Hospital, has tendered his resignation.

A lecture was delivered by Dr. Simon Flexner at the Museum in Widener Hall, May 10, on "Impressions of the Philippine Islands."

By the will of Mary Baker, $5000 has been left the Philadelphia Hospital for Women, as an endowment of a free bed; $1000 was left to the Methodist Hospital for the same purpose.

Dr. R. N. Willson recently delivered an address before the International Convention for the Prevention of Tuberculosis, which was held in Naples.

Drs. H. B. Allyn and David Riesman have been appointed members of the medical staff of the Philadelphia (Blockley) Hospital.

The competitive examination for positions on the staff of the Philadelphia Hospital will occur May 22. The examining board will consist of Drs. James M. Anders, John H. Musser, A. H. Hulsburgher. Sixteen resident physicians will be chosen.

UNIVERSITY HOSPITAL.

Provost Harrison, of the University of Pennsylvania, recently appeared before the Board of Supervisors to advocate an ordinance to strike from the city plan, Pine Street from Thirty-fourth to Thirty-sixth Street, in order that needed enlargement of the University Hospital may be made. Otherwise a gift of $50,000 can not be accepted on account of the lack of ground on which to build.

MORTALITY STATISTICS.

The number of deaths during the past week was 494, a decrease of 23 from the previous week, and an increase of 90 over the corresponding period of last year. The principal causes were: nephritis, 26; cancer, 6; tuberculosis, 57; diabetes, 1; heart disease, 32; influenza, 5; appendicitis, 4; pneumonia, 69; peritonitis, 5; septicemia, 4; suicide, 6; tetanus, 1.

PENNSYLVANIA HOSPITAL.

The 149th annual report of this hospital has been made: The total number of cases treated in all the wards, not including the department in West Philadelphia, was 36,126. In the insane department, 619 were treated. The expenses of the Pine Street Hospital were $116,790.30; the West Philadelphia Hospital for men, $95,843.32; the Hospital for Women, $125,490.18. The principal contributions received during the year were: from Frederick F. Ayer, $25,000; Samuel J. Sharpless, $10,000; Estate of George Plumer Smith, $10,000: and $5000 each from John T. Morris, Elizabeth Baker, estate of Catherine Thorn, Clara Galli and Dr. Joseph Kirkbride. The total contributions amounted to over $89,500. The sum of $7966.50 was paid by the Government for the treatment of soldiers during the late war.

MARYLAND.

Baltimore.

Dr. Theodore Cook, Jr., has been reappointed physician to the penitentiary.

Dr. Frederick Lawford has been appointed assistant physician to Bayview Hospital.

Drs. Wm. B. Burch, John S. Bishop, and John T. McCarthy have been appointed on the board of police surgeons.

Prof. W. H. Welch, Johns Hopkins University, has been appointed one of the judges of the Hall of Fame, New York University.

The Woman's Medical College graduated four women on May 7. Miss Willena A. Peck, of Massachusetts, received the gold medal. The address was delivered by Rev. Dr. J. B. Van Meter, Dean of the Woman's College of Baltimore.

PUBLIC BATHS.

The mayor has approved the city ordinance appointing a commission to take charge of the public baths in Baltimore. Among the seven names on the commission, three are those of physicians: Drs. John S. Fulton, Mary Sherwood and Joseph C. Gichner. Henry Walters has turned over to the city the public baths on High Street, which he has given to Baltimore.

UNIVERSITY HOSPITAL.

The following appointments have been made at the University Hospital: medical superintendent, Dr. S. P. Latane; vice Dr. Spruill, resigned; assistant resident physician, Dr. G. A. Stewart, vice Dr. Fitzhugh, resigned; and Dr. H. Smith, resident surgeons, Drs. Thos. McGreen, A. C. Mathews, and A. C. Hoyt; assistant gynecologists, Drs. C. D. Snyder and C. A. Beck; assistant resident physician and ambulance surgeon, Dr. H. A. Naylor.

VACCIN PHYSICIANS.

The health commissioner made his assignments of the twenty-four vaccin physicians on May 9. Heretofore each of these received $200 a year for this, and $100 additional for services at police stations. Under the new law one physician is appointed from each ward to serve as vaccin physician and health warden or sanitary inspector, and medical attendant at the station house. The twenty-four are divided into groups of three, each group to have charge of one of the eight police stations, to look after the health of the prisoners there, and treat minor accident cases. There is some trouble about the salary, owing to insufficient appropriation, as the law allows the health commissioner to pay as much as $900 a year, and he will not be able to pay the full amount this year.

DISTRICT OF COLUMBIA.

NATIONAL LEGISLATIVE CONFERENCE.

The first meeting of the National Legislative Conference of the American Medical Association was held here May 1 and 2, pursuant to the resolution of the Association at its Columbus meeting. The Conference was formally called to order by the Chairman, Dr. H. L. E. Johnson, who stated the object of the meeting. After some general discussion on the subjects to be considered, the delegates decided, on motion of Dr. Welch of Baltimore, Md., to adjourn to meet the following day, at which meeting the following members were present: Drs. H. L. E. Johnson, representing the Association Committee and the Medical Association of the District of Columbia; Wm. H. Welch of Baltimore, and Wm. E. Rodman of Philadelphia, representing the Association Committee, and the following members representing the states, U. O. B. Wingate, Wisconsin; W. P. Goff, West Virginia; L. B. Tuckerman, Ohio; George Evans Reading, New Jersey; Gustav Eliot, Connecticut; F. J. Tina, Texas; H. M. Bracken, Minnesota; Surgeon-General Wyman; Surgeon-General Sternberg; John B. Roberts, Pennsylvania; George H. Simmons, Nebraska, and Henry Sewall, Colorado. The general matters discussed were "The Department of Public Health," "The Publication of the Index Medicus," "The Antivivisection Bill," "Unification of Medical Practice Acts," Senate bills 4200 and 4274, providing for contract surgeons, and H. R. bill 4483, providing increase in the medical department of the army; H. R. bill 1139 and Senate bill 4171, referring to quarantine, and Senate bill 559, providing for purification of water-supply. The committee of five, consisting of Drs. H. L. E. Johnson, Wm. H. Welch, L. B. Tuckerman, H. M. Bracken, and W. P. Goff, was appointed to wait on the committees of Congress having in charge the bills designated, and urge their prompt passage. The Committee will make a full report to the American Medical Association at the June meeting.

ILLINOIS.

SEMI-CENTENNIAL ANNIVERSARY.

Officers of the Illinois State Medical Society were elected May 16, as follows: president, G. N. Kreider, Springfield; first vice-president, Weller Van Hook, Chicago; second vice-president, Denslow Lewis, Chicago; assistant secretary, O. B. Will, Peoria; treasurer, Everett J. Brown, Decatur. The semi-centennial of the society was celebrated in the evening, with a reception and banquet, J. H. Hollister of Chicago officiating. Toasts were responded to as follows: "The Founder of the Illinois State Medical Society," Robert Beal and L. C. Thompson, both of Lacon. "Medical Education for Fifty Years in Illinois," N. S. Davis, Chicago; "Then and Now," James T. Stewart, Podunk; "Reminiscences of Early Day Practice and Hardships of the Pioneer Doctor," W. J. Chenoweth, Decatur; "The Parson to the Doctor," the Rev. D. F. Howe, Springfield; "Reminiscences," C. C. Hunt, Dixon; "Law and Medicine," Judge Charles P. Kine, Springfield; "The Ideal Physician of the Future," F. P. Norbury, Jackson.

Chicago.

A man here ruptured a blood-vessel in his head during a severe attack of coughing, death resulting.

Property on Forty-ninth Street, near Cottage Grove Avenue, has been transferred to the Chicago Hospital Building Company for a consideration of $75,000. The building will be renovated and refitted. Dr. Alexander Ferguson is president of the company and chief of the medical staff.

Two deaths have occurred at the Dowie institution the past week. As both were probably preventable, radical measures will be instituted by the State Board of Health.

PERSONALS.

Drs. John A. Robison, Adolph Gehrmann, John Hollister, N. S. Davis, J. S. Gill and Daniel R. Brower attended the State Medical Society, just held in Springfield, and presented papers on various subjects. Dr. N. S. Davis is the only living member of the sixteen delegates who were present at the first meeting.

WESLEY HOSPITAL.

The following staff has been appointed for Wesley Hospital: Professors Davis, Edwards and Webster, in medicine; Van Hook, Plumer and Schroeder, in surgery; Dudley and Mergler, in gynecology; Gradle and Allport, in eye and ear; Casselberry, in nose and throat; DeLee in obstetrics; Ridlon, in orthopedics; Danforth, in renal surgery; Hatfield, in children's diseases; Fütterer, pathologist; Zeisler, in skin diseases; Church and Patrick, in nervous and mental diseases. This institution is devoted entirely to clinical teaching, the services being almost entirely made up of charity cases.

MORTALITY STATISTICS.

There were 527 deaths in the week ending May 12, 39 more than the preceding week and 24 more than in the corresponding period of 1899. The chronic diseases were chiefly responsible for the high mortality. Pneumonia and typhoid fever were also in excess of the preceding week, and there were 15 deaths from measles—the greatest number reported for any week since the weekly mortality records have been kept.

OHIO.

Dr. William T. Gemmil, Forest, has been elected president of the State Board of Health.

The commencement exercises of the Medical College of Ohio were held in Cincinnati, May 7. Prof. Howard Ayers, president of the University of Cincinnati, made the address, and awarded the diplomas to sixty young men. Prof. Jos. Ransohoff made the valedictory address.

REGISTRATION AND EXAMINATION.

Representatives of the different schools of medicine in the state met recently with a committee from the Board of Medical Registration and Examination and discussed the qualifications of those asking for admission to the colleges, and the date of opening. The meeting was the first of its kind, but will hereafter be an annual affair, and will be held at the time of the meeting of the Ohio State Medical Society.

ALUMNI MEETING.

At the annual meeting of the alumni association of the Cleveland College of Physicians and Surgeons the following officers were elected: president, Dr. N. S. Everhard, Wadsworth, Pa.; second vice-president, Dr. G. B. Woods, Washington, Pa.; second vice-president, Dr. H. N. Powers, North Amherst, Ohio; third vice-president, Dr. H. C. Crumvine, Cleveland; secretary, Dr. H. B. Ormsby, Cleveland; treasurer, Dr. I. N. Hentzelman, Cleveland.

INDIANA.

A new sanitarium has been opened in Terre Haute, under the management of Drs. Samuel D. Weir and Louis K. Stock.

The mayor of Logansport issued a proclamation, May 4, ordering citizens to be vaccinated at once; and the State Board of Health has ordered the erection of a pest-house. A case of smallpox in a boarding-house has made these precautions necessary.

KENTUCKY.

COLLEGE CHANGES.

The Board of Curators of the Central University of Kentucky, realizing that it would be more advantageous to have the Louisville College of Dentistry run independent of the Hospital College of Medicine has decided to separate the two. A new building is being erected for the Louisville College of Dentistry. The architect made a personal examination of the different dental colleges of prominence before preparing the plans for this one. It will be four stories high, and devoted solely to dental instruction. Work has begun on the new building and it will be ready for occupancy October 10, when the next session opens. The building and general management of the department will be in the hands of officers selected, because, by experience for many years, both in active practice and intimate connection with dental colleges, they are especially fitted to take charge of the institution.

MICHIGAN.

At the meeting of the board of trustees of Butterworth Hospital, held May 7, in Grand Rapids, a new medical staff was appointed.

Detroit.

The new staff at the Harper Hospital is: G. B. Lowrie, house physician; T. F. Heavenrich, S. G. McDonald, R. T. Mason, Dugald Ferguson and W. N. Wilkinson, assistants.

DETROIT COLLEGE OF MEDICINE.

The thirty-second annual commencement exercises of the Detroit College of Medicine occurred May 10. Dr. W. P. Manton addressed the class on the subject, "Posthomo Shadows in Medical Science," and Judge J. W. Donovan on "Opportunities." At the alumni meeting, Dr. Don Campbell, of Detroit, was elected president; Dr. E. D. Rice of Flint, vice-president.

LOUISIANA.

Dr. J. G. Dempsey has been appointed visiting physician to the out-door poor of Truro Infirmary.

The city council of New Orleans has passed an ordinance regulating the management of dairies, with penalties for non-observance. The dairy farms have heretofore been in a very unsanitary condition, and a great improvement is hoped for in the future.

CALIFORNIA.

Dr. Vincent Buckley, of San Francisco, has been appointed to fill the vacancy on the board of health, caused by the resignation of Dr. W. E. Hopkins.

Mrs. Phoebe Hearst has presented to the University of California a complete equipment for the department of medicine, and Dr. Alonzo Taylor is in Germany purchasing the apparatus.

CANADA.

HEALTH PRECAUTIONS.

The Provincial Board of Health of Ontario met May 8 and 9. Among other matters up for discussion and action was that of lumpy-jaw in cattle, and the secretary, Dr. Bryce, was ordered to notify the health officer of Prescott, that any cattle shipped back from Montreal, where the disease had been discovered, as reported to The Journal a few weeks ago, should be immediately slaughtered. The Board upheld the action of the health officer of Fort William, who prevented a child with tubercular glands in the neck from attending school.

UNSANITARY STREETS.

The unsanitary, dusty streets in Montreal are again causing trouble and caustic comment. The city is so full of scarlet fever as to almost amount to an epidemic; and it is not confined to the poorer classes in the "scums" of the city, for many of the children of the better classes are also victims. The dust of the streets is swirled into the meat shops and provision stores and peppers the foods, so that that which was pure and wholesome becomes polluted and poisonous. It is thought that in this way the large amount of infection arises; but the existing state of affairs continues and the city fathers are being savagely criticised for their negligence in not keeping the streets properly swept and cleaned.

PHYSICIANS' AND SURGEONS' SYNDICATE.

Dr. J. W. Shaw, Clinton, Ont., at the last meeting of the Huron Medical Association, in April—an Association which, some fifteen years ago, Professor Osler denominated the best of its kind in Canada—brought forward an idea, which though not perhaps new, will bear close and careful scrutiny at the hands of the profession. It is a plan for cheapening drugs and supplies to physicians and surgeons, and at the same time for profit and perfection in the remedy. It is proposed that a physicians' and surgeons' syndicate be established among doctors, with a capital of $50,000, in $10-shares, one physician not to possess more than twenty shares. A supply-house to be opened at some central point, with a competent manager and chemist, from which source all that pertains to the practice of medicine shall be obtained, at a wholesale price to the physician, would necessarily form an important part of the undertaking. The members of the corporation would all have to deal with this house, and share in whatever profits materialized. The accomplishment of some such scheme would do away with travelers wasting the physician's time, a practice which has almost become unbearable; and whatever financial profit there is to these houses would all revert to the doctor. The proposition was well received by the Association, and there is a likelihood of it receiving still further elaboration at an early date.

SMALLPOX AT MONTREAL.

Montreal is fearful of another epidemic of the dreaded disease. In 1885, when the city was decimated and ravaged to an alarming extent, and something like 3500 people succumbed to the sickness, a lesson was taught the sanitary authorities, which their successors ever afterward do not fail to appreciate. The disease, as previously announced in this correspondence in The Journal, was brought to the city by a young man coming from Rossland. He occupied a berth in the sleeper directly opposite to one of the victims of the disease at Winnipeg. On arriving at his hotel in Montreal the nature of his trouble was discovered. The whole staff of the hotel was immediately vaccinated, but not before two others of the employees had become infected. Another employee took sick and was sent to the General Hospital, suffering from apparent pneumonia; but the medical superintendent met the case at the hospital doors and diagnosed it smallpox. It was turned over to the Civic Hospital. A doctor has been put in special charge of these cases, another of which has since developed; and the financial committee of the city council has placed at the disposal of the hygienic committee unlimited funds to enable them to ward off all chance of an epidemic. So far all are of a mild character.

Correspondence.

Length of Medical College Curriculum.

Hyde Park, Vt., May 8, 1900.

To the Editor: In view of the coming meeting of the Association and action on the Amendment to Article 2 of the Constitution, proposed by Dr. Reynolds, viz.: "That no state, county or other auxiliary body sending representatives shall receive into its membership any one who may after 1900 receive the degree of Doctor of Medicine on less than four years of graded instruction or an equivalent requirement," I would like to suggest, as a member who will not be able to attend the meeting, that the proposed amendment be changed to read—"who may after 1903 receive the degree of Doctor of Medicine on less than four years of graded instruction, to include at least eight months' attendance at lectures and clinics each year, or an equivalent requirement."

This is offered in view of the fact that all of our leading universities, including such schools as Johns Hopkins, Harvard, Cornell, Columbia, Yale, Jefferson, the universities of Pennsylvania, Michigan, California, Minnesota, Virginia, Missouri, Texas, Chicago and twenty-six other schools, now require attendance on annual sessions of eight and nine months, while there are any number of others keeping the requirements down to six months' annual attendance. On the other hand, every medical school in the country except four or possibly five, which includes the two Georgia schools, has raised the requirements to a four years' required attendance, but, in case of all the southern schools except the university of Texas and one or two others, this requirement only applies to students who matriculate after Jan. 1, 1900, and who receive their degrees after July 1, 1903. To have this amendment apply to all receiving their degree after 1900 would in effect exclude the graduates of nearly every southern school and a number of northern schools who graduate during the years 1901, 1902 and 1903, while to require all graduating after 1903 to have attended four years of eight months each would be giving a fair warning. The extension of the course to eight months could be adopted at the coming session or at the beginning of the session of 1901-02, thereby making the time requirements uniform throughout the country and keeping harmony in the ranks.

It would seem as though the six months' schools extend the time to eight months for their own protection, as the graduates of some of them do not make a very creditable appearance before the numerous examining boards in comparison with those having longer sessions; and how can they, as attendance on annual sessions of eight months means, in four years, eight months' extra work in lectures, recitations, clinics and laboratory? However, in spite of this, some of them will not extend their sessions to eight months until compelled to do so.

Perhaps that would be as far as we ought to go at present, but I would very much like to see, in addition to the above, a requirement that all graduating after 1903, applying for recognition from the Association or its auxiliary bodies, be required to produce evidence that they have had a preliminary education equal to that obtained in a first-grade high school course, as is now required by law in the states of New York, New Hampshire and Ohio (Amendment to Statute passed April 14, 1900).

Johns Hopkins requires a degree in arts, literature, or science for admission. Harvard will require the same from all entering after September of this year. After 1901 the Western Reserve University, Cleveland, Ohio, will require the completion of the junior year in a recognized college, for admission to its medical department, and after 1903 the University of Chicago (see The Journal, April 21, 1900, p. 1014.) and the University of Minnesota will require the same. While too much can not be said in favor of the adoption of a collegiate education as a standard for admission by our leading universities, still, it would seem that it should be left to the judgment of the individual school, and that the completion of a high school course should be sufficient to require of all schools, but we should insist on that as a condition of admission and that the schools require four annual sessions of eight months each instead of six, and as all of our best schools now require it, let us demand it of all after 1903.

Very truly yours,
William T. Slayton, M.D.

Deaths and Obituaries.

Landon Carter Gray, M.D., died at his home in New York City, May 8, aged 50 years. He studied in Columbia and Heidelberg universities, and in 1873 took his degree in medicine at Bellevue Hospital Medical College. He began practice in New York City, but afterward moved to Brooklyn, where he was made professor of neurology at the Long Island College Hospital and visiting neurologist to St. Mary's Hospital. He was one of the founders of the New York Polyclinic, and was its professor of nervous and mental diseases. He served as president of the American Neurological Association, the New York Neurological Society, and the Society of Medical Jurisprudence. He was also chairman of the executive committee of the American Congress of Physicians and Surgeons for three successive sessions, and the author of several medical works, among the most important of which is his text-book on nervous and mental diseases.

Thomas W. Gordon, M.D., Georgetown, Ohio, died April 21, aged 81 years. He was graduated from the Cleveland Medical College in 1846; from 1851 to 1860 he was professor of materia medica and therapeutics in the Cincinnati College of Medicine and Surgery, and during the Civil War was surgeon of the 97th Ohio infantry. He was a member of the American Medical Association.

Thomas Dobbins, M.D., Marysville, Cal., died May 5, of tuberculosis. He was born in Alabama in 1837, but lived in Missouri most of his early life. In 1855, he was graduated from Brunswick College. He was an army surgeon during the Civil War, and at the close went to California, where he has since lived.

Carl Brumme, M.D., Detroit, Mich., died May 13, aged 83 years. He was born in Göttingen, Germany, and educated there in the public schools and university. In 1852 he came to America and located in Detroit, where he has since resided. He was a member of the Michigan State Medical Society and of the American Medical Association.

Robert A. Ellis, M.D., died in Alaska, June 15, 1899. He was about 100 miles from Cape Nome, and news of his death has just reached here. He was graduated from the Kentucky School of Medicine, in Louisville, in the class of 1882, and for fifteen years had practiced in San Francisco. In 1898 he identified himself with a mining company and was looking after its interests when he was stricken with fever.

W. M. Bullard, M.D., died recently in Fallbrook, Cal. He was graduated from the Medical College of Indiana in 1876, and then located in Helena, Mont., where he remained until failing health necessitated a change of climate.

DEATHS ABROAD.

Dr. Rafael Lavista, of Mexico, is dead. His name is associated with scientific progress in his country during the last half century; he was the official representative of Mexico at the last three international congresses, and the Pan-American Congress at Washington. The *Revista de Anatomia Pat. y Clin.*, of which he was editor, has suspended publication for the present.

We also note the deaths of Professor Bose, of Giessen, who had recently retired; A. Milne-Edwards and G. Planchow, of Paris.

New Instruments.

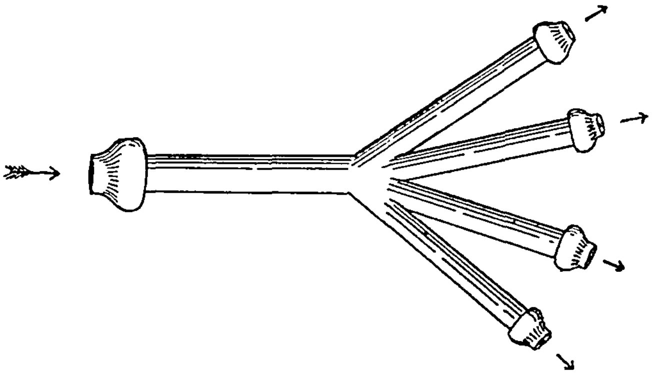
An Improved Device for Rapid Hypodermoclysis.

BY EDWIN M. HASBROUCK, M.D.

WASHINGTON, D.C.

In The Journal for March 3, page 520, Dr. Evan O'Neill Kane illustrates and describes a simple home-made device for rapid multiple infusion—consisting of a rubber bulb, glass medicine-dropper, rubber tubing and needles. The affair is a most useful one, but for other than absolute emergencies is too unstable in composition, both from the fact that after repeated sterilizations the rubber bulb is bound to deteriorate and eventually become useless—possibly just when most wanted—and that leakage is bound to occur at the points where the tubing is drawn through the bulb, possibly permitting the entrance of air at some stage of the operation.

Acting on the suggestion contained in Dr. Kane's apparatus, I have had made for me a simple little device that, like the eye-dropper, can be carried about in the pocket, or form part of every surgeon's outfit. It can be sterilized at a moment's notice together with the needles and tubing, and it will last forever. It consists of a single metal tube provided with a bulbous end for holding the receiving tube from the fountain or supply tank. The lower end divides into four tubes, the ends of which are similarly provided for the feed tubes. The accompanying drawing shows the contrivance, exact size. For convenience and speed the four tubes with their needles can be left permanently attached and dried after each usage—the whole apparatus to be kept in a little box in the instrument bag. While the improved apparatus is my own idea, the profession has to thank Dr. Kane for a most useful little contrivance. The instrument here illustrated was made for me by the W. J. McKee Company, of this city.



2422 Fourteenth St., N. W.

The Artificial Defecator and Irrigator.

BY ROBERT N. BARGER, M.D.

HOPEDALE, ILL.

We all recognize the importance of *rest* in the treatment and cure of disease, yet in hemorrhoids and rectal troubles we have never been able to apply this, for the reason that we must defecate daily and have never had a way for avoiding it, or of doing it artificially. To secure this much needed rest to the diseased parts I have had constructed an instrument which may be called an artificial defecator and irrigator.

I have found that it suits the purpose, i. e., it evacuates the bowels without any expulsory effort, or contraction of the perineal or sphincter ani muscles, thus giving the needed rest. I have used this instrument for six months and find it not only indispensable to patients suffering from hemorrhoids and rectal troubles, but also useful after all serious surgical operations, fractures of the lower limbs, accouchement cases, in all low types of fever, etc.

Not all its therapeutic applications can now be enumerated nor assigned, but they will develop as necessity calls for its use. In the accompanying cuts, Figure 1 represents the instrument closed and ready for introducing into the rectum or vagina. Figure 2 is the instrument open for use after introduction, the arrows showing the different currents of water. "A" is a rubber tube, or syringe for conveying water into the chamber or reservoir which surrounds the sewerage canal, and "B" is a rubber drainage-tube attached to the sewerage canal for conveying the fecal matters off when the patient is in bed. Figure 3 shows the instrument in three parts for cleansing or sterilizing. The two caps show one for defecation with holes and one for irrigation without holes.

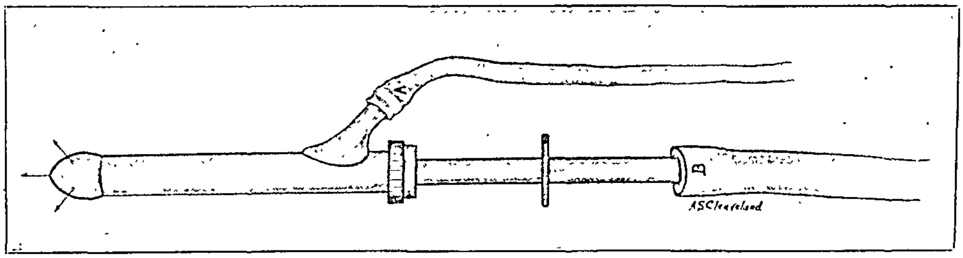


FIGURE 1.

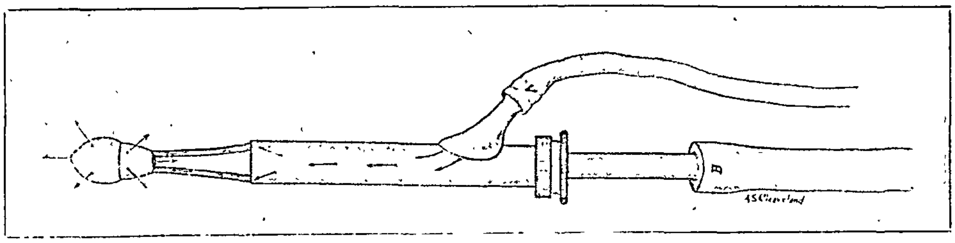


FIGURE 2.

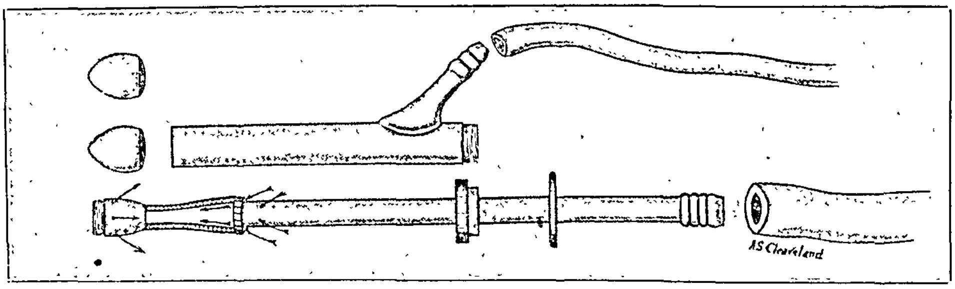


FIGURE 3.

The principal points to be noticed in this instrument are: 1. The sewerage canal is unobstructed by any stem or conduit tube; it has lateral currents to clear the opening and has a straight shoot from the rectum to a vessel beneath the bed. 2. The reservoir or chamber, surrounding the sewerage canal and encased by the outer cylinder, so places the water as to throw currents in every direction, thus triturating and liquefying the fecal matter. This placing of the water also makes it a very desirable rectal and vaginal irrigator.

Queries and Minor Notes.

PRACTICE IN OHIO.

BROOKLYN, N. Y., May 12, 1900.

To the Editor: Will you kindly inform me whether one may now register in Ohio under the present law previous to the one recently enacted taking effect July 1, as noted in THE JOURNAL of above date. Please give me particulars how to go about it, to whom apply, etc. Yours truly, F. S. M.

ANSWER.—There is nothing in the amended Ohio law to prevent registration under the old conditions prior to July 1, 1900. This would give the right to practice, as the amended law reads: "All persons authorized and entitled prior to July 1, 1900, to practice medicine, surgery, or midwifery, in the State of Ohio, under and by virtue of the provisions of an act, entitled, 'An act to regulate the Practice of Medicine in the State of Ohio,' passed Feb. 27, 1896, to which this act is amendatory, may engage in such practice and shall be subject to the law regulating the same; all other persons desiring to engage in such practice in the state shall apply to the state board of registration and examination for a certificate, and submit to the examination heretofore provided." There are exceptions in favor of Ohio medical students matriculating before Jan. 1, 1900, and a reciprocity clause. For further particulars address the Secretary of the Board of Medical Registration and Examination, Columbus, Ohio.

THE PATIENT AND PHYSICIAN IN ILLUSTRATION.

MILLVILLE, Mo., May 7, 1900.

To the Editor: Some time ago THE JOURNAL published an account of a series of three pictures, by a foreign artist, representing the patient's attitude toward his physician, during illness, convalescence and health. If you can give me any information regarding these—as to where and how they can be purchased—I would greatly appreciate it. Very fraternally,

J. M. G.

ANSWER.—The pictures referred to appeared in *Janus*, an international journal devoted to the history of medicine and medical geography, published at Amsterdam, by Dr. H. F. A. Peypers (Address Parkweg 212). Several sets were given. The subscription is $5 a year for twelve numbers of *Janus*. Articles are in German, French or English, as contributed. Surgeon-General Sternberg, Dr. N. S. Davis, of Chicago; Dr. J. E. Pilcher, of Columbus, and Dr. Solis-Cohen, of Philadelphia, are on the list of collaborators.

PATHOLOGY OF CHOREA.

Princeton, Ill., April 31, 1900.

To the Editor: Will you kindly tell me whether the pathology of chorea has been satisfactorily determined, and give it to me in as condensed form as possible. T. M. K.

Answer.—Its essential lesions are not determined, and none of the several theories that have been advanced can be said to be satisfactorily established. At the present time there seems to be a tendency to attribute the affection to a germ, and it has been claimed that a special bacterium has been found in cases of chorea, but this has not been confirmed. The other theories, the neurotic and the rheumatic, the latter having many supporters, are also still *sub judice.*

ST. LUKE'S HOSPITAL AGAIN.

Los Angeles, Cal., May 4, 1900.

To the Editor: A few days ago I received a letter from the president and treasurer of St. Luke's Hospital of Niles, Mich.

The president of this institution, like many another man of reputation, has several titles—M.D., Ph.D., L.L. D.—while the proposition he made me nearly took my breath away, and I began to think that my great merits as a scholar, statesman, writer, orator, microscopist and struggler-for-a-living were about to be appreciated in Michigan, by appointment on the "medical staff" of a great hospital, and to be given a certificate therefor. Here is a copy of the letter:

By way of introduction, we obtained your name from the list of medical practitioners located abroad from "R. L. Polk & Co.'s Medical and Surgical Register," hence this letter to you, subject to your confirmation. The plan of organization is entirely different to that (here is a Scotticism betraying something) of any other institution of its kind—and trust that we may have the pleasure of adding your name to this list, same as we have this day Dr. N. Banerjee, of Calcutta, India, who sent us $10.00 for our genuine sheepskin Certificate and Membership ticket.

We will pay you a commission of 25 per cent. of the operation fee of all surgical cases and 10 per cent. of the fee of all medical cases you may send to our hospital for treatment (from India and Hawaii!) We charge nothing for nursing patients day or night, as that part of the expense is taken from our "Nursing Fund." We do charge, however, for board and room, ranging from $1.50 to $2.00 per day, according to the location selected by the patient.

Should you wish to consult us at any time regarding difficult cases we will freely give you what assistance and advice we can, and will make microscopical analysis of specimens free of charge.

It is our invariable rule never to appoint more than one physician in each locality, and should he so desire it, after accepting the appointment and paying the membership fee, and will send us a list of names, not exceeding twelve, including the local newspapers, we will write individual letters recommending him to them, copy of which we herewith enclose.

To each of our members we issue a very neat and attractive Certificate setting forth that he is a member in good standing on our medical staff, and entitled to all the advantages and privileges of our hospital. We also issue in addition to our certificate a neat pocket lithographed Pocket Membership Ticket, which we believe, if rightly used, will be the means of securing many patients for our hospital. We charge as a membership fee according to the grade of certificate selected (see Physician's Application Blank), which goes to make up our 'Nursing Fund.'

Trusting that you will fill out the enclosed application form and return it to us with a remittance covering the amount of the priced certificates you may select.

We remain yours fraternally, etc.

In a postscript was added:

Our House-Surgeon, Dr. Geo. A. Steel, is also a graduate of Rush, Class of 1895.

At the head of the letter are the names of some thirty-one physicians comprising the medical staff, from Niles, Berlin, New York, Chicago, Cincinnati, Kansas City, Philadelphia, Louisville, Buffalo, Edinburgh, St. Paul, Brooklyn, Paris, Keokuk, Indianapolis, Dublin, St. Louis, London, and Albany. Three of these names were: J. B. Greene, M.D., F.R.C.P.S., president of staff, professor of practice of surgery, Queen's University; L. A. Larsen, A.B., M.D., Rush Medical College of Chicago; A. J. H. Delacey, M.D., University of Edinburgh, Scotland. These names show the cosmopolitan nature of the institution. It annihilates space, and through its wards may flit the attending spirits of Dr. McAdoo of Philadelphia, Dr. Banerjee of Calcutta, Dr. Osborne of Indiana, or Dr. Norwood of London. I call this great!

I received also a membership ticket stating that Dr. ——— is a member of St. Luke's Hospital staff; a blank form for application saying that "the list will be closed shortly," and giving prices of different kinds of certificates; a picture of the president and his hospital, and a printed list of testimonials received from physicians "who are members of our staff." One of them says: "The beautiful certificate of membership has reached me," and another writes: "The certificate is an elegant one, and I shall have it framed and placed in my new sanitarium where all can see it."

The following is a copy of the "individual letter" which would be sent around if the new incumbent so desired:

Dear Sir or Madam: We beg respectfully to call your attention to the fact that we have just recently elected and appointed Dr. ———, of your place, to be a visiting and consulting physician and surgeon on the Medical Staff of our Hospital, on account of his excellent medical qualifications and professional standing. We have no hesitation in recommending him to you, any member of your family, friends or acquaintances, if you should become sick and desire medical treatment. We wish to indorse the Doctor and recommend you to patronize him. Should you at any time desire the services of our hospital for yourself, friends or acquaintances, the Doctor will make arrangements with you so that you can come here for treatment.

We have a first-class, up-to-date hospital, with every home comfort, and a Medical Staff of eminent physicians and surgeons, and our charges are less than anywhere else you may go.

In regard to these letters is the following private information:

The above we send out upon our regular printed business letterheads (twelve to each certificate holder) recommending or indorsing those members only *who have paid for their certificates of membership.*

On receipt of this generous offer and before my gratitude could grow cold, as gratitude often does, I sat down and wrote the following note to the president:

Venerated and Distinguished Sir: I do not think that it would be becoming in a man of my humble station to accept of such vast and appalling honors and responsibilities as you suggest in your letter of February 24, just received. My diplomas and certificates have been secured by hard work; to get so much for so little might at my time of life (menopause) upset me completely.

I have often resented the statement that Americans are fond of titles; that they have a love for empty honors, and like to be "humbugged," but, after reading all these testimonials from physicians who have paid $10 to be placed on the medical staff of the St. Luke's Hospital of Niles, I will be more saving of my indignation. Were the privileges of membership somewhat more difficult to get; were the qualifications more shrewdly stated, and, as is the case with so many other easily-secured honors, made to seem special and legitimate, we should not be surprised that many had swallowed the bait. But here any doctor who can pay the fee gets the certificate. A man who has worked hard to get a real diploma from a real college, does not care to see his name on a sheepskin he can buy for $10; and the older he grows in the experience of the world, the less he seeks the seeming; the more he loves the real.

E. S. Goodhue, M.D.

Miscellany.

BOOKS AND PAMPHLETS RECEIVED.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interests of our readers.

BOOKS.

Chemistry and Physics. A Manual for Students and Prac-New York. Series Edited by Bern B. Gallaudet, M.D., Demonstrator of Anatomy, College of Physicians and Surgeons, and William H. Rockwell, Jr., M.D., Assistant Demonstrator of Anatomy, College of Physicians and Surgeons, Columbia University, New York. Series Edited by Bern B. Gallaudet, M.D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York. Illustrated with 137 Engravings. Cloth. Pp. 374. Price $1.50. Philadelphia and New York: Lea Brothers & Co.

The Medical Review. (*Medical and Surgical Review of Reviews*). An Indexed and Illustrated Monthly Summary of all that is Important to the Practitioner in the Medical Periodicals of the World. Edited by Nathen E. Body, M.D. Volume ii, January-December, 1899. Cloth. Pp. 768. London: Harrison & Sons.

Diseases of the Gall-Bladder and Bile-Ducts, Including Gall-Stones. By A. W. Mayo Robson, F.R.C.S., Senior Surgeon to General Infirmary at Leeds. Assisted by Farquahar MacRae, M.B., C.M. Cloth. Pp. 313. Price $3. Second Edition. New York: William Wood & Co. 1900.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland. One Hundred and Fifth Annual Session (Centennial Anniversary). Held at Baltimore, Md., April, 1899; Semi-annual Session held at Frederick, Md., November, 1899. Paper. Pp. 213. Baltimore: Deutsch Co.

A Handbook for Nurses. By J. K. Watson, M.D., Late House-Surgeon, Essex and Colchester Hospital. American Edition under the Supervision of A. A. Stevens, A.M., M.D., Professor of Pathology in the Woman's Medical College of Pennsylvania. Cloth. Pp. 413. Price $1.50. Philadelphia: W. B. Saunders. 1900.

Essentials of Diagnosis. Arranged in the Form of Questions and Answers. Prepared Especially for Students of Medicine. By Solomon Solis-Cohen, M.D., Professor of Clinical Medicine and Therapeutics in the Philadelphia Polyclinic, and Augustus A. Eshner, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic. Illustrated. Second Edition, Revised and Enlarged. Cloth. Pp. 417. Price $1. Philadelphia: W. B. Saunders. 1900.

Pathology and Surgical Treatment of Tumors. By N. Senn, M.D., Ph.D., LL.D., Professor of Surgery in Rush Medical College. Second Edition. Revised. Illustrated by 478 Engravings, and 12 Full-Page Plates in Colors. Cloth. Pp. 718. Price $5. Philadelphia: W. B. Saunders. 1900.

Transactions of Twenty-First Annual Meeting of American Laryngological Association. Held in Chicago, May 22-24, 1899. Cloth. Pp. 233. New York: D. Appleton & Co. 1900.

Constitution and By-Laws of the Sacramento Society for Medical Improvement. Organized March 17, 1868. Incorporated June 29, 1878. Revision of October 30, 1899. Cloth. Pp. 19. Sacramento, Cal.: W. F. Purnell. 1900.

"Festschrift" in Honor of Abraham Jacobi, M.D., LL.D. To Commemorate the Seventieth Anniversary of his Birth. May 6, 1900. Paper. Pp. 496. New York: Knickerbocker Press. 1900.

Proceedings of the Twenty-Fourth Annual Session of the Arkansas Medical Society. Held at Little Rock, Ark., May 10-12, 1899. Paper. Pp. 348. Little Rock: Tunnah & Pittard.

Transactions of the Florida Medical Association. For the year 1899. Held at Jacksonville, Fla., April 19 and 20. Paper. Pp. 184. Jacksonville: DaCosta Printing Co. 1899.

Deutsche Stimmen Aus Deutschen Landern. Gesammelt von Frau Prof. Dr. J. H. W. Stuckenberg, North Cambridge, Mass. Paper. Pp. 44. Preis, 5 cents; Das Hundert, 3 dollar. Cambridge: The Co-Operative Press.

Proceedings of Connecticut Medical Society. 1899. One Hundred and Seventh Annual Convention, Held at Hartford, May 24 and 25. Cloth. Pp. 416. Published by the Society.

Medical and Surgical Report of the Presbyterian Hospital of the City of New York. Volume iv. January, 1900. Boards. Pp. 223. Edited by Andrew J. McCosh, M.D., and W. G. Thompson, M.D.

Proceedings of the Pathological Society of Philadelphia. Volume iii. April. 1900. Paper. Pp. 23. Philadelphia. Published by the Society. 1900.

Proceedings of the Philadelphia County Medical Society. March, 1900. Paper. Pp. 39. Philadelphia: Published by the Society.

PAMPHLETS

A Medico-Religious Society. By W. T. Parker, Westboro, Mass. Reprinted from Va. Med. Semi-Monthly.

An Equation of Responsibility. By Edwin W. Pyle, Jersey City, N. J. Reprinted from N. Y. Med. Times.

An Experiment in the Transmission of Syphilis to Calves. By Mazyck P. Ravenel, Philadelphia. Reprinted from Am. Jour. of the Med. Sci.

Defective Development and Disease with Special Reference to the Curability of Consumption and Cancer. By M. A. Veeder, Lyons, N. Y. Reprinted from Trans. of Am. Microscopical Society.

Diagnosis and Some of the Clinical Aspects of Gyroma and Endothelioma of the Ovary. Fourth Hitherto Undescribed Disease of the Ovary—Colloid Degeneration; Third Hitherto Undescribed Disease of Ovary—Myxomatous Degeneration; Microscopic Studies in Pelvic Peritonitis. By Mary Dixon Jones, New York City. Reprints.

Hernia of Vermiform Appendix. By L. L. Hill, Montgomery, Ala. Reprinted from Med. Record.

Parrott's Disease: Report of Case. By C. G. Stivers, Los Angeles, Cal. Reprinted from Southern Cal. Pract.

Presidential Address: Higher Medical Education. By R. MacNeill, Stanley Bridge, P. E. I. Reprinted from Montreal Med. Jour.

Report of Case of Fibroma of Neck. By J. A. Sutcliffe, Indianapolis, Ind. Reprinted from Med. and Surg. Monitor.

Surgery of the Hand. By W. A. Kuflewski, Chicago. Reprinted from Chicago Clinic.

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., May 5 to 10, 1900, inclusive:

Francis J. Bailey, acting asst.-surgeon, from Hillsboro, Ore., to the Department of California.

John M. Banister, major and surgeon, U. S. A., member of a board at West Point, N. Y., to examine military cadets.

Reuben M. Bonar, acting asst.-surgeon, U. S. A., now at San Francisco, Cal., is relieved from further duty in the Philippines, and will report for assignment in the Department of California.

George E. Bushnell, major and surgeon, U. S. A., member of a board convened at West Point, N. Y., to examine miltiary cadets.

William J. Enders, acting asst.-surgeon, from Philadelphia, Pa., to the Department of California.

John S. Fogg, acting asst.-surgeon, leave of absence extended.

William M. Hendrickson, acting asst.-surgeon, from Skagway, Alaska, to the Department of California.

Loren B. T. Johnson, acting asst.-surgeon, from Washington, D. C., to the Department of California.

William L. Weller, acting asst-surgeon, from Chicago, to temporary duty at Fort Logan, Colo.

Thomas B. McCown, acting asst.-surgeon, from Windsor. Mo., to the Department of California.

John L. Phillips, captain and asst.-surgeon, U. S. A., member of a board at West Point, N. Y., to examine military cadets.

John J. Repetti, acting asst.-surgeon, from Washington, D. C., to the Department of California.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ending May 5, 1900.

(By cable from Asiatic Station.)

Asst.-Surgeon W. E. High, detached from the *Manila* and ordered to the hospital.

Asst.-Surgeon D. G. Beebe, detached from the *Yorktown* and ordered to the *Isla de Luzon*.

Surgeon T. A. Berryhill, detached from the *Monongahela*, on reporting of relief, and ordered home to wait orders.

P. A. Surgeon W. M. Wheeler, detached from the *Vermont*, May 3, and ordered to the *Kearsarge*.

P. A. Surgeon G. H. Barber, detached from the *Kearsarge* and ordered to the *Monongahela*.

Asst.-Surgeon D. H. Morgan, ordered to the *Vermont*.

Medical Inspector J. C. Boyd, detached from duty as assistant to bureau of medicine and surgery, Navy Department, and ordered to the *New York*, as fleet surgeon of the North Atlantic Station.

Medical Inspector P. Fitzsimons, detached from the *New York*, as fleet surgeon of the North Atlantic Station, and ordered to proceed home and wait orders.

Surgeon J. D. Gatewood, detached from the bureau of medicine and surgery, Navy Department, May 8, and ordered to duty as assistant to bureau of medicine and surgery, same day.

P. A. Surgeon C. D. Brownell, ordered to the naval training station, Newport, R. I.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended May 3, 1900.

Surgeon P. H. Bailhache, detailed to represent the Service at the convention for the decennial revision of the United States Pharmacopeia, at Washington, D. C., May 2.

Surgeon Eugene Wasdin, detailed to represent the Service at the meeting of the American Medical Association, at Atlantic City, N. J., June 5 to 8.

P. A. Surgeon J. O. Cobb, to report to chairman of board of examiners for examination to determine fitness for promotion to the grade of surgeon.

P. A. Surgeon H. D. Geddings, detailed to represent the Service at the convention for the decennial revision of the United States Pharmacopeia, at Washington, D. C., May 2.

P. A. Surgeon M. J. Rosenau, detailed to represent the Service at the meeting of the American Medical Association, at Atlantic City, N. J., June 5 to 8.

Asst.-Surgeon S. R. Tabb, upon being relieved from duty at Savannah, Ga., to report in person at the bureau for further orders.

Asst.-Surgeon John McMullen, granted 60 days extension of leave of absence.

Asst.-Surgeon R. H. von Ezdorf, relieved from duty at New Orleans, La., and directed to proceed to Savannah, Ga., and assume command of the Service.

Asst.-Surgeon L. D. Fricks, relieved from duty at Washington, D. C., and directed to proceed to Manila, P. I., and report to the chief quarantine officer for duty.

Asst.-Surgeon G. M. Corput, to proceed to Mullet Key, Fla., and assume command of the detention camp and the steamer *W. D. Bhatton*.

Asst.-Surgeon H. A. Stansfield, relieved from duty at Honolulu, H. I., and directed to proceed to Manila, P. I., and report to the chief quarantine officer for duty.

Hospital Steward E. S. Maguire, relieved from duty at Evansville, Ind., and directed to proceed to New York City (Stapleton), and report to the medical officer in command, for duty and assignment to quarters.

Hospital Steward H. R. Mason, to proceed to New York City and report to the medical purveyor for temporary duty.

Hospital Steward E. M. Holt, to proceed to Portland, Me., and report to the medical officer in command for temporary duty and assignment to quarters.

BOARD CONVENED.

Board convened to meet at Washington, D. C., May 3, 1900, for the examination of P. A. Surgeon J. O. Cobb, to determine his fitness for promotion to the grade of surgeon. Detail for the Board—Surgeon J. H. White. Chairman; Surgeon R. M. Woodward, and Surgeon G. T. Vaughan, Recorder.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended May 12, 1900.

SMALLPOX—UNITED STATES AND INSULAR.

Alabama: Mobile, April 26 to May 5, 4 cases.

District of Columbia: Washington, April 26 to May 5, 1 case, 1 death.

Florida: Jacksonville, April 26 to May 5, 1 case.

Indiana: Evansville, April 26 to May 5, 5 cases; Indianapolis, April 26 to May 5, 6 cases.

Iowa: Des Moines, April 1 to 30, 16 cases; Ottumwa, April 14 to 21, 2 cases.

Kansas: Wichita, April 26 to May 5, 4 cases.

Kentucky: Covington, April 26 to May 5, 6 cases; Lexington, April 26 to May 5, 1 case.

Louisiana: New Orleans, April 26 to May 5, 50 cases, 18 deaths.

Maryland: Baltimore, April 26 to May 5, 5 cases.

Massachusetts: Chicopee, April 26 to May 5, 1 case.

Michigan: Grand Rapids, April 26 to May 5, 3 cases.

Nebraska: Omaha, April 21 to 28, 2 cases.

New York: New York, April 26 to May 5, 2 cases.

Ohio: Cleveland, April 26 to May 5, 7 cases, 1 death.

Tennessee: Nashville, April 26 to May 5, 2 cases.

Utah: Ogden, April 1 to 30, 2 cases; Salt Lake City, April 26 to May 5, 5 cases.

Philippines: Manila, March 3 to 24, 9 cases, 1 death.

SMALLPOX—FOREIGN.

Austria: Prague, April 7 to 21, 9 cases.

Belgium: Ghent, April 14 to 21, 1 death.

Brazil: Rio de Janeiro, March 23 to 30, 6 cases, 12 deaths.

Canada: New Brunswick—Grand Falls and St. Leonards, April 28, present; Ontario, April 18 to May 1, 3 cases; Quebec—Bonaventure County, May 4, 26 cases.

England: Liverpool, April 14 to 21, 18 cases, 3 deaths; London, April 14 to 21, 4 cases; Southampton, April 14 to 21, 2 cases.

France: Lyons, April 1 to 14, 3 deaths.

Gilbraltar: Gilbraltar, April 15 to 22, 2 cases, 1 death.

Greece: Athens, April 14 to 21, 2 cases, 1 death.

India: Bombay, April 3 to 10, 111 deaths: Calcutta, March 10 to 17, 28 deaths: Kurrachee, April 1 to 8, 20 cases, 14 deaths.

Italy: Milan, April 21 to 28, 1 case.

Mexico: Vera Cruz, April 21 to 28, 4 deaths.

Russia: Moscow, April 1 to 7, 7 cases: Odessa, April 7 to 21, 24 cases, 8 deaths; Warsaw, April 1 to 4, 5 deaths.

Scotland: Glasgow, April 14 to 21, 6 cases, 1 death.

Spain: Corunna, April 14 to 21, 1 death.

Straits Settlements: Singapore, March 10 to 17, 3 deaths.

Venezuela: Maracaibo, April 7 to 14, 1 case.

YELLOW FEVER.

Brazil: Rio de Janeiro, March 28 to 30, 7 cases, 23 deaths; Santos, February 18 to April 8, 125 deaths.

Mexico: Vera Cruz, April 21 to 28, 1 death.

CHOLERA.

India: Bombay, April 3 to 10, 15 deaths: Calcutta, March 10 to 17, 77 deaths.

Philippines: Manila, March 3 to 24, 15 cases, 12 deaths.

PLAGUE—INSULAR.

PLAGUE—FOREIGN.

Arabia: Aden, February 21 to April 14, 119 cases, 81 deaths.

Egypt: Port Said, May 4, outbreak reported.

India: Bombay, April 3 to 10, 698 deaths; Calcutta, March 10 to 17, 744 deaths; Kurrachee, April 1 to 8, 471 cases, 333 deaths.

CHANGE OF ADDRESS.

Dr. D. M. Alluseth, from 429 Grand Avenue to 1467 Humboldt Boul., Chicago, Ill.

Dr. E. F. Brandon, from Detroit, Mich., to Ainger, Ohio.

Dr. J. C. Beach, from 3007 Cottage Grove Avenue, Chicago, Ill., to care Orr, Brown & Price, Columbus, Ohio.

Dr. W. C. Bailey, from Hot Springs to Las Vegas, N. M.

Dr. A. J. Brower, from Detroit to Martin, Mich.

Dr. C. M. Brucker, from Denver, Colo., to 805 9th Street, Tell City, Ind.

Dr. E. N. Brady, from 338 Marshfield Avenue to 323 S. Western Avenue, Chicago, Ill.

Dr. H. J. O'Brien, from 620 Tower Street to Waterman Block, West Superior, Wis.

Dr. H. A. Brous, from 9th and Pine Streets, Philadelphia, Pa., to Manhattan, Kans.

Dr. G. A. Bachman, from Detroit to Burnips Corners, Mich.

Dr. M. R. Beaudoin-Bennett, from Jackson, Mich., to 176 Broadway, New York, N. Y.

Dr. P. H. Banta, from Detroit to Hubbardston, Mich.

Dr. I. B. Chadwick, from 1514 Myrtle Street to 4627 E. 10th St., Kansas City, Mo.

Dr. J. F. Cardwell, from St. Luke's Hospital, Detroit to Durand Mich.

Dr. W. H. Curtiss, from 528 S. 9th Street, Lafayette to Frankfort, Ind.

Chicago Med. Society, from Stewart Bldg. to 203 Michigan Avenue, Chicago, Ill.

Dr. S. F. Clay, from Washington, D. C., to Lewisburg, W. Va.

Dr. D. A. Conrad, from Los Angeles to 40 E. Colorado Street, Pasadena, Cal.

Dr. S. C. Carver, from Winterset to Lorimor, Iowa.

Dr. F. C. Chandler, from 1236 to 1318 Noble Avenue, Chicago,

Dr. J. W. Duncan, from Atlanta, Ga., to Gay and Vine Streets, Knoxville, Tenn.

Dr. E. C. Dukes, from St. Louis to Lookout, Mo.

Dr. L. B. Dochterman, from 95 Columbia Street East, Detroit, Mich., to Covington, Ind.

Dr. E. E. Evans, from Detroit to Armada, Mich.

Dr. A. R. Edwards, from 2818 to 2930 Indiana Avenue, Chicago,

Dr. G. S. Edmonson, from Marva to Renmek Opera House, Clinton, Ill.

Dr. J. P. Freeman, from Glenville to Emmons, Minn.

Dr. C. H. Frizelle, from Chicago to Sterry Block, Pontiac, Ill.

Dr. E. E. Gibbons, from 492 Lincoln Street, Chicago, Ill., to Mattoon, Wis.

Dr. R. L. Gallaher, from Wheat, Tenn., to English, Texas.

Dr. C. O. Gose, from Pleasantville, Iowa, to Hennessey, O. T.

Dr. S. E. Greenfield, from 682 W. Adams Street, Chicago, Ill., to Atchison, Kans.

Dr. H. D. Gray, from Newton to Kellogg, Iowa.

Dr. I. J. K. Golden, from 1045 to 1134 Milwaukee Avenue, Chicago, Ill.

Dr. P. H. Hansberry, from Milwaukee to Hillsboro, Wis.

Dr. E. D. Hammond, from Omaha, Neb., to Tie Siding, Wyo.

Dr. Chas. Hines, from 629 Front Street, to 265 Morrison Street, Portland, Ore.

Dr. O. E. Howell, from Woods to Santa Rosa, Mo.

Dr. C. P. Horner, from Paxton to Tampico, Ill.

Dr. S. Hexter R. A. C. Co., from 199 Market St. to 154 State St., Chicago, Ill.

Dr. F. D. Hollenbeck, from 313 E. Chicago Ave. to 205 North State St., Chicago, Ill.

Dr. H. J. Hillebrand, from 863 Armitage Ave. to 1059 W. Fullerton Ave., Chicago, Ill.

Dr. C. W. Heath, from 165 Wood St. to 16 Astor St., Chicago.

Dr. J. Hawley, from 3515 Grand Boul. to 3421 S. Park Ave., Chicago, Ill.

Dr. J. D. Hartley, from 6422 Stony Island Avenue to 7840 Emerald Avenue, Chicago, Ill.

Dr. R. B. Jackson, from Washington, D. C., to 156 W. 53d Street, New York, N. Y.

Dr. H. Johnston, from New Orleans to Clinton, La.

Dr. W. A. Jaquith, from 2522 Calumet to 3841 Rhodes Avenue, Chicago, Ill.

Dr. W. A. Joyce, from Baltimore, Md., to 187 54th Street, Brooklyn, N. Y.

Dr. M. F. Kirkbride, from Philadelphia, Pa., to Spring Lake Beach, N. J.

Dr. E. K. Kerr, from 2328 Calumet Avenue to 1323 Washington Boul., Chicago, Ill.

Dr. J. Klein, from St. Elizabeth Hospital to 4800 N. Clark Street, Chicago, Ill.

Dr. J. E. Lanier, from Quince to Omega, Ga.

Dr. Jas. B. Lewis, from Waseca to St. James, Minn.

Dr. A. L. Lehman, from Mullan to Wallace, Idaho.

Dr. E. A. Lawbaugh, from 31 Washington Street, to 237 La Salle Avenue, Chicago, Ill.

Dr. P. V. Mikell, from 178 Ashley Avenue, Charleston, to Lady and Sumter Streets, Columbia, S. C.

Dr. R. E. Miller, from 5858 State Street to 5859 Wentworth Avenue, Chicago, Ill.

Dr. J. F. McKinley, from 3457 State Street to 39th and Cottage Grove Avenue, Chicago, Ill.

Dr. Jno. S. Miller, Philadelphia, Pa., to Louisville, Colo.

Dr. W. O. Nance, from 5213 Hibbard Avenue to 100 State Street, Chicago, Ill.

Dr. J. C. Oliver, from Malvern Place to 2221 Park Avenue, Cincinnati, Ohio.

Dr. F. P. Parker, from Centaur to 1423 Euclid Avenue, St. Louis, Mo.

Dr. H. J. Patten, from 1735 Armitage Avenue to 1093 Tripp Avenue, Chicago, Ill.

Dr. H. C. Palmer, from 5 Hopper Street to 2 West Street, Utica, N. Y.

Dr. W. E. Patterson, from 706 Monroe Street, Chicago, Ill., to Greene, Iowa.

Dr. L. W. Rowell, from 280 S. Leavitt Street to 45 Loomis Street, Chicago, Ill.

Dr. E. E. Rohrabaugh, from 4308 Langley Avenue to 109 42d Place, Chicago, Ill.

Dr. H. H. Rittenhouse, from 57th and Jefferson Streets to 5739 Rosalie Court, Chicago, Ill.

Dr. I. C. Rosse, from 1701 H Street N. W., to 1110 F Street N .W., Washington, D. C.

Dr. B. W. Sippy, from 143 Oakwood Boul. to The Winamac, Chicago, Ill.

Dr. I. J. Sexton, from 384 S. Marshfield to 835 W. Harrison Street, Chicago, Ill.

Dr. C. M. Shanely, from Ledgerwood to Forman, N. D.

Dr. H. B. Stehman, from Pasadena to 217 S. Broadway, Los Angeles, Cal.

Dr. J. A. Silverman, from 975 Post Street to 822 Geary Street, San Francisco, Cal.

Dr. W. B. Simpson, from New Orleans, La., to Hot Springs, Ark.

Dr. A. D. Smith, from 295 Marshfield Avenue, Chicago, Ill., to Hicks Bldg., San Antonio, Texas.

Dr. T. E. Spaulding, from Galveston to Kingston, Texas.

Dr. L. A. Sholars, from New Orleans to Henry, via Abbeville, Louisiana.

Dr. J. T. Topinka, from 2534 Wentworth to 2602 Indiana Avenue, Chicago, Ill.

Dr. C. Vedeler, from Denver to care D. & R. G. Hospital, Salida Colorado.

Dr. A. S. Waiss, from 2691 to 2516 N. Hermitage Avenue, Chicago, Ill.

Dr. F. E. Wadhams, from 3329 Indiana to 3435 S. Park Avenue, Chicago, Ill.

Dr. U. R. Webb, from Lenox Flats, 16th and L Streets, to 2021 Hillger Place, Washington, D. C.

Dr. T. B. Wingo, from Martin, Tenn., to Dexter, Mo.

Dr. C. L. Worrall, from Alliance to Magnolia, Ohio.

Dr. M. N. White, from Augusta, Ga., to 1521 Fitzwater Street, Philadelphia, Pa.

Dr. O. A. Young, from 626 6th Avenue, Cedar Rapids, Iowa, to 1009 Rusk Avenue, Houston, Texas.

Dr. A. T. Zeller, from 901 Walnut Street to 603 Locust Street, McKeesport, Pa.

Association News.

Board of Trustees.—There will be a meeting of the Board of Trustees of the American Medical Association in Room 237, Hotel Dennis, Atlantic City, N. J., at 10 a. m., Monday, June 4, 1900. Alonzo Garcelon, M.D., President.

Membership Receipts.—Members attending the Atlantic City meeting, and who have paid their dues for 1900, are reminded of the necessity of taking their receipts with them if they wish to avoid annoyance when they register.

The Official Program.—In order to avoid misunderstandings and to protect the interests of advertisers, attention is called to the fact that there is but one official program. This program is copyrighted by the Board of Trustees and contains no advertising matter.

Delegates to the Meeting of the American Medical Association.—Secretaries of societies are requested to forward the names of delegates as soon as possible after these are appointed or elected. George H. Simmons, M.D., Secretary, 61 Market St., Chicago.

General Business Committee.—The first meeting of the General Business Committee of the American Medical Association will be held at the Hotel Dennis, Atlantic City, N.J., on Monday afternoon, June 4, at 4:30 o'clock. Subsequent meetings of the Committee will be held at the same place and hour, every afternoon, during the meeting of the Association, unless otherwise directed by the Committee. In order that the business of the Association may be effectively transacted, it is very important that all the members of the Committee should attend all its meetings. L. Duncan Bulkley, Acting Secretary.

Railroad Rates for Atlantic City Meeting.—As previously anounced in these columns, the Trunk Lines Association and the Central Passenger Association have granted one and one-third fare rate on the certificate plan for the Atlantic City meeting. Tickets will be on sale in the territory of these Associations from May 30 to June 7, and good to return to June 23. Action has also been taken by the Western Passenger Association, and the same rate announced from all points in its territory, tickets also to be sold on the certificate plan, the dates of sale being May 30 to June 5. The return limit was made June 12 by this Association, but on account of the later limit allowed by the others, it will probably be changed to correspond with that of the Trunk Lines and Central Passenger associations. The certificates will be signed at Atlantic City by Dr. W. Blair Stewart, N. E. Cor. Pacific and North Carolina Avenues, and a special agent will be present on June 6, 7 and 8. The territory covered by the two first-named includes practically everything north of the Ohio River and east of the Mississippi from Cairo to St. Louis, thence east of a line drawn from St. Louis to Chicago, through Jacksonville, Decatur, Gibson, etc. The Western Passenger Association's territory to which the [illegible] plan usually applies comprises points [illegible] oria and St. Louis, including Oklahoma, [illegible] Colorado, Utah, Nebraska, South consin, Iowa, most of North Dakota and Missouri, and northern Michigan and northern Illinois.

Pathologic Exhibit at the American Medical Association.—The state medical society has constituted the chief avenue through which pathologic material has been solicited for the exhibit, and a number of state organizations have appointed representatives or committees to take in charge the work. Besides, a number of laboratories and hospitals will send on their own account. A partially complete list of the organizations and institutions which will participate, with the committees acting for them, is as follows: Alabama Medical Association, Thos. D. Parke, Birmingham; Colorado State Medical Society, A. M. Holmes, Denver; Florida State Medical Society, Edward N. Liell, Jacksonville; Illinois State Medical Society, Maximilian Herzog, Chicago; Indiana State Medical Society, Frank B. Wynn and H. G. Gaylord, of Indianapolis, L. P. Drayer of Fort Wayne, A. W. Bitting of Lafayette, Edwin Walker of Evansville, George H. Grant of Richmond, Allen Pierson of Spencer and L. J. Willien of Terre Haute; Kentucky State Medical Society, James B. Bullit, Louisville; Louisiana State Medical Society, O. L. Pothier, New Orleans; Missouri State Medical Association, Hugo Summa, St. Louis; New Jersey State Medical Society, F. W. Bailey, Elizabeth; New York State Medical Association, Edward K. Dunham, D. Hunter McAlpin, Leon T. LeWald, and J. W. Draper Maury, New York City; North Carolina State Medical Society, Richard H. Whitehead, Chapel Hill; Ohio State Medical Society, A. P. Ohlmacher, Gallipolis; Tennessee State Medical Society, William Krauss, Memphis; West Virginia State Medical Society, W. P. Goff, Clarksburg; Wisconsin State Medical Society, Gustav A. Kletzsch, Milwaukee; Government Hospital for Insane, A. R. Richardson and I. W. Blackburn, Washington; Iowa State University, Walter L. Bierring, Iowa City; Johns Hopkins Hospital, William H. Welch, Baltimore; Lakeside Hospital, William T. Howard, Jr., and Dr. Perkins, Cleveland; Pepper Laboratory and other institutions of Philadelphia, Alfred Stengel; Pathological Institute of the New York State Commission in Lunacy, Ira Van Gieson, New York City; United States Marine-Hospital Service, Walter Wyman, Washington; United States Bureau of Animal Industry, D. E. Salmon, Washington.

It is urged that representatives in charge of collections, as well as individuals sending specimens, should comply as nearly as possible with the wishes of the committee in the matter of case histories. These should be typewritten, crosswise on paper 5½ by nine inches in size, leaving a margin of 1½ inches at the top. The first page should be a brief containing the essential facts and striking features of the specimen, to be elaborated in the succeeding pages. For specimens with meager data a large tag will be provided. In the former the case history will be enclosed in a neat cover and placed with the specimen for convenience of reference. Tags and covers may be obtained from the secretary of the committee by specifying the number desired.

Specimens should be packed carefully and labeled "Breakable!" There will be less danger of breakage if the packages do not exceed 250 to 300 pounds in weight. Boxes with rope handles may be checked on the tickets of the representative accompanying the collection. If shipped by freight due allowance should be made for delays. Every possible effort should be made to have the material reach Atlantic City by June 2, and under no circumstances later than June 4, since it will require considerable time and labor to put the collection in order. In every instance the committee should be notified as to the method of transportation, date of shipment and probable time of arrival. All material or communications expected to arrive in Atlantic City after May 31 should be sent in care of the "Pathological Exhibit of The American Medical Association."

The members of the Provisional Committee on the Pathologic Exhibits are: Joseph Stokes, Moorestown, N. J., Chairman; Alfred Stengel, 1811 Spruce St., Philadelphia; W. W. Fox, City Hospital, Atlantic City, N. J.; Frank B. Wynn, 18 E. Ohio St., Indianapolis, Ind., Secretary.

Programs for Atlantic City Meeting.

Following are the lists of papers to be presented before the several Sections at the next meeting of the Association.

SECTION ON PRACTICE OF MEDICINE.

Tuesday, June 5—Afternoon Session.

1. Address of Chairman. George Dock, Ann Arbor, Mich.
2. A System of Personal Biologic Examinations of the Condition of Adequate Medical and Scientific Conduct of Life. George M. Gould, Philadelphia.
3. The Hospital Clinical Laboratory. C. N. B. Camac, New York City.
4. Value of Bacteriologic Cultures of Throat to General Practitioner. M. Howard Fussell, Philadelphia.
5. Dysentery. Simon Flexner, Philadelphia.
6. Notes on Tropical Dysentery. J. H. Musser, Philadelphia.
7. Serumtherapy in Croupous Pneumonia. J. C. Wilson, Philadelphia.
8. Influence of Sea Air and Sea Water Baths on Disease. W. Blair Stewart, Atlantic City, N. J.

Wednesday, June 6—Morning Session.

9. Pseudo (?), or Modified (?) Smallpox? T. J. Happel, Trenton, Tenn.
10. Yellow Fever: Its Nature and Its Cause. Eugene Wasdin, Surgeon, U. S. M.-H. S.
11. Prolonged Fevers of Obscure Origin. Robt. B. Preble, Chicago.
12. Some Interesting Cases of Infectious Diseases. DeLancey Rochester, Buffalo, N. Y.
13. Certain Clinical Features of Influenza Recently Epidemic. H. S. Anders, Philadelphia.
14. Influenza With Four Distinct Pneumonic Attacks Accompanied by Otitis Media Purulenta, Cerebral Hyperemia, Colitis, Marasmus. Recovery. Julius Ullman, Buffalo, N. Y.
15. Observations on Direct Antiseptic Treatment of Infectious Diseases. C. Am Ende, New York City.

Wednesday, June 6—Afternoon Session.

SYMPOSIUM ON MALARIA.

16. Pathology of Malarial Fevers: Structure of the Parasites and Changes in the Tissues. Jesse W. Lazear, U. S. A., Havana, Cuba.
17. Etiology of Malaria With Especial Reference to Mosquitoes. W. S. Thayer, Baltimore, Md.
18. Inoculation of Malarial Fever Through Agency of the Mosquito, with Some Sections and Dissections of the Mosquito. Etiology of Malarial Fever and Some Observations Made in the South Several Years Ago. A. E. Woldert, Philadelphia.
19. Entomologic and Practical Aspects of the Mosquito; With Specimens and Drawings. L. O. Howard, U. S. Dept. of Agriculture.
20. Some Typical Cases of Estivo-autumnal Fever and Combined Estivo-autumnal and Tertian Malarial Fevers; with a Study of the Parasites Observed in the Blood. Chas. F. Craig, U. S. Army.
21. Experiences with Some of the Pernicious Forms of Malaria. M. Goltman, Memphis, Tenn.
22. Clinical Observations in Malaria. Frank A. Jones, Memphis, Tenn.
23. Malarial Hemoglobinuria. Wm. Britt Burns, Deckerville, Ark.

Discussion on Malaria, by Wm. Osler,, Baltimore; A. C. Abbott, Philadelphia; Wm. Krauss, Memphis, Tenn.; Arthur R. Edwards, Chicago; Judson Daland, Philadelphia; T. J. Happel, Trenton, Tenn.

Thursday, June 7—Morning Session.

SYMPOSIUM ON ARTHRITIS.

24. Pathology of Rheumatism. David Riesman, Philadelphia.
25. Rheumatism and Prevention of Heart Complications. James J. Walsh, New York City.

26. Relations of Chorea and Rheumatism.
C. W. Burr, Philadelphia.
27. Heart in Rheumatism.
DeLancey Rochester, Buffalo, N. Y.
28. Heart in Rheumatism. Arthur R. Edwards, Chicago.
29. Pathogenesis and Clinical Features of Arthritis Deformans. A. O. J. Kelly, Philadelphia.
30. Iodid of Iron in Treatment of Certain Forms of Infective Arthritis. J. C. Wilson, Philadelphia.

Discussion on Arthritic Diseases, by F. A. Packard, Philadelphia; J. H. Musser, Philadelphia; J. M. Anders, Philadelphia; Edward F. Wells, Chicago; Charles G. Stockton, Buffalo, N. Y.; L. F. Bishop, New York City; H. B. Favill, Chicago.

31. Case of Malignant Endocarditis with Recovery.
N. S. Davis, Jr., Chicago.
32. Relative Importance of Muscular and Valvular Lesions of Diseases of the Heart.
S. Solis-Cohen, Philadelphia.
33. Clinical Study of Myocarditis.
Louis Faugeres Bishop, New York City.
34. Plea for a More Rational Prognosis in Heart Affections.
Jno. J. Morrissey, New York City.

Discussion on Cardiac Disease, by Frank Billings, Chicago; DeLancey Rochester, Buffalo, N. Y.; James B. Herrick, Chicago; O. T. Osborne, New Haven, Conn.; D. D. Stewart, Philadelphia; Bertram W. Sippy, Chicago; Robert B. Preble, Chicago; M. H. Fussell, *Philadelphia.*

Thursday, June 7—Afternoon Session.

35. In What Relation Does Occupation Stand to Tuberculosis? W. Fruedenthal, New York City.
36. Diagnosis and Treatment of Prebacillary Stage of Pulmonary Tuberculosis. J. M. Anders, Philadelphia.
37. Subnormal Temperature in Pulmonary Phthisis; Its Clinical Significance.
J. Frank McConnell, Las Cruces, New Mexico.
38. Importance of Rest in Pulmonary Tuberculosis.
Carroll E. Edson, Denver, Colo.
39. Pulmonary Tuberculosis; Present Condition of Cases Treated During 1898 and Reported Last Year at the Columbus Meeting. C. P. Ambler, Asheville, N. C.
40. Tuberculosis of the Lungs. A. F. Lemke, Chicago.
41. Rational Treatment of Tuberculosis With Compressed-Air in Saturated Antiseptic Solution for Inhalation and Internal Use.
Eustathius Chancellor, St. Louis, Mo.
42. Silver Injection Treatment of Pulmonary Consumption.
Thomas J. Mays, Philadelphia.

Discussion on Tuberculosis, opened by J. C. Wilson, Philadelphia; DeLancey Rochester, Buffalo; Henry B. Favill, Chicago; S. Solis-Cohen, Philadelphia; James B. Herrick, Chicago.

43. Hydrophobia and the Pasteur Method.
Charles Winslow Dulles, Philadelphia.
44. Brain Break and Nerve Strain of the American Soldier; His Mind and Nerve Exhaustion; His Insanity and Neurasthenia. C. H. Hughes, St. Louis, Mo.

Friday, June 8—Morning Session.

45. Diagnosis of Diabetes. James B. Herrick, Chicago.
46. Mortality From Diabetes Mellitus In the City of New York During the Decade 1889-1899.
Heinrich Stern, New York City.
47. Cutaneous Diseases Accompanying Diabetes.
Milton B. Hartzell, Philadelphia.
48. Exophthalmic Goiter.
O. T. Osborne, New Haven, Conn.
49. Typhoid Bacillus and Its Complete Biologic History From Eberth's Discovery Until To-day.
Felix Vitale, Coytesville, N. J.
50. Case of Scorbutus in Which Typhoid Fever, Complicated by Acute Leukemia, Occurred.
D. D. Stewart, Philadelphia.
51. Chlorosis: With Especial Reference to Diagnosis, Prognosis and Treatment. Edward F. Wells, Chicago.
52. Treatment of Typhoid Fever with Bactericidal Agents and Some Consequent Deductions.
James M. Peck, Arlington, Ky.

Friday, June 8—Afternoon Session.

53. Lesions of Cauda Equina and Conus Medullaris.
Bertram W. Sippy, Chicago.
54. Movable Kidney From the Standpoint of the General Practitioner. A. Marcy, Jr., Riverton, N. J.
55. Antiseptic Treatment of Diphtheria.
D. Benjamin, Camden, N. J.
56. Rational Therapeusis of So-Called Uric Acid Lesions With Some Original Investigations.
Alfred C. Croftan, Pasadena, Cal.
57. Some Points on the Nature and Treatment of the Melancholias. J. Joseph Kindred, New York City.
58. Climatology of Arizona.
William Duffield, Phœnix, Ariz.
59. Clinical Laws of Immunity of Disease.
Lambert Ott, Philadelphia.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

Tuesday, June 5—Afternoon Session.

2 o'clock.

1. Address of Chairman. W. E. B. Davis, Birmingham, Ala.
2. Value of the Angiotribe in Vaginal Celiotomy.
J. H. Carstens, Detroit, Mich.
3. Further Experience with Tuffier's Angiotribe.
I. S. Stone, Washington, D. C.
4. Angiotripsy in Abdominal Surgery.
Hugh M. Taylor, Richmond, Va.

3:30 o'clock.

SYMPOSIUM ON FIBROMYOMA.

5. Personal Experience with Uterine Fibroid.
H. D. Ingraham, Buffalo, N.Y.
6. Myomectomy Per Vaginam.
J. Riddle Goffe, New York City.
7. Myofibroma Uteri. H. J. Boldt, New York City.
8. Arrhythmia Cordis Complicating Fibromata Uteri.
J. Wesley Bovée, Washington, D. C.
9. Anteflexion of Uterus; Its Causes and Treatment.
Augustus P. Clarke, Cambridge, Mass.

Wednesday, June 6—Morning Session.

9 o'clock.

10. Improved Technique in Major and Minor Surgery of the Female Generative Organs.
Henry P. Newman, Chicago.
11. The Rubber Glove in Aseptic Surgery.
C. C. Frederick, Buffalo, N. Y

10 o'clock.

SYMPOSIUM ON OBSTETRICS.

12. Practical Application of Posture During Labor.
Edward P. Davis, Philadelphia.
13. Plea for Regular and Systematic Examination of the Uterus for Eight or Ten Weeks Following Parturition.
Hiram N. Vineberg, New York City.
14. Parturition as a Factor in Gynecic Practice.
John M. Duff, Pittsburg, Pa.
15. Classical Cesarean Section Versus the Porro-Cesarean.
Geo. M. Boyd, Philadelphia.
16. Forced Re-expansion of Uterus During Labor and Its Relation to Manual Operations for Correction of Malpositions of Child.
D. Benjamin, Camden, N. J.
17. Maternity Hospitals and Obstetric Teaching.
Geo. C. Mosher, Kansas City, Mo.
18. Puerperal Eclampsia.
J. Lue Sutherland, Grand Island, Neb.

Wednesday, June 6—Afternoon Session.

3 o'clock.

SYMPOSIUM ON THE RELATION OF PELVIC AND INTRA-ABDOMINAL DISEASES TO NERVOUS DISEASES.

19. Causal Relation Intra-Abdominal Diseases Bear to Nervous Disturbances Recognized by Gynecologists, Ignored by Neurologists. Henry O. Marcy, Boston.

20. Traumatisms and Malformation of Female Generative Apparatus as Cause of Insanity. Geo. H. Noble, Atlanta, Ga.
21. Neuroses Due to Autointoxication from Faulty Menstruation. Arthur Johnstone, Cincinnati, Ohio.
22. Tubo-Ovarian Adhesions; Their Reflexes. A. L. Beahan, Canandaigua, N. Y.
23. Gall-Stones and Diseases of Gall-Bladder and Nervous Symptoms Resulting Therefrom. Edwin Ricketts, Cincinnati, Ohio.
24. How Shall We Treat Our Cases of Hysteria and Neurasthenia. Joseph Taber Johnston, Washington D. C.
25. Title to be announced. F. X. Dercum, Philadelphia.
26. Third Element in Equation Between Pelvic Disease and Disturbance in Nervous System in Women. H. A. Tomlinson, St. Peter, Minn.
27. Pelvic Disease as a Factor of Cause in Insanity of Female, and Surgery as a Factor of Cure. E. C. Carpenter, Columbus, Ohio.
28. Interrelation of Gynecology and Neurology in Practice. C. H. Hughes, St. Louis, Mo.

Thursday, June 8—Morning Session.

29. Abdominal Tumors of Infancy. Denslow Lewis, Chicago.
30. Aseptic Minor Gynecology with Demonstrations. Augustin H. Goelet, New York City.

SYMPOSIUM ON CANCER OF FEMALE GENERATIVE ORGANS.

10 o'clock.

31. The Prophylaxis and Diagnosis of Cancer of Uterus. L. S. McMurtry, Louisville, Ky.
32. Technique of Vaginal Extirpation for Cancer of Uterus. R. B. Hall, Cincinnati, Ohio.
33. Combined Abdominal and Vaginal Versus Vaginal Hysterectomy for Carcinoma. John B. Deaver, Philadelphia.
34. Operative Treatment of Cancer of Uterus. E. E. Montgomery, Philadelphia.
35. Operation for Cancer of Rectum in Female. John B. Murphy, Chicago.
36. Cancer of Uterus. W. H. Humiston, Cleveland, Ohio.
37. Treatment of Cancer of Uterus. Wm. R. Pryor, New York City.

Thursday, June 8—Afternoon Session.

2 o'clock.

38. Nephrorrhaphy: A Study of the Remote Results, With Remarks on the Technique. Charles P. Noble, Philadelphia.
39. Resection of Ureter. Howard A. Kelly, Baltimore, Md.
40. Exclusion of Intestinal Areas From Fecal Tract. John B. Murphy, Chicago.

SYMPOSIUM ON INFLAMMATORY DISEASES OF FEMALE GENITALIA.

3 o'clock.

41. Senile Endometritis. L. H. Dunning, Indianapolis, Ind.
42. Inflammation of Fallopian Tube, with Special Reference to Specific Origin. J. R. Guthrie, Dubuque, Iowa.
43. Appendicitis Operations in Young Women and Girls. Joseph Price, Philadelphia.
44. Tubercular Peritonitis. A. H. Cordier, Kansas City, Mo.
45. Source of Infection in Pelvic Suppuration as an Indication for Treatment. H. D. Niles, Salt Lake City, Utah.
46. Ovarian Dermoid and Large Hematocele, with Twisted Pedicle Which Caused Alarming Conditions Resembling Appendicitis; Patient Ten Years of Age; Operation; Recovery. Milo B. Ward, Kansas City, Mo.
47. Pathology of Pelvic Suppurations. F. Henrotin, Chicago.
48. Plea for More Frequent Avoidance of Exsection of Ovary in Connection with Resections of Diseased Tubes. Philander A. Harris, Paterson, N. J.
49. Residual Symptoms of Gonorrhea in Female. Edward J. Ill, Newark, N. J.

Friday, June 8—Morning Session.

9 o'clock.

50. After-Treatment of Laparotomy. Walter B. Chase, Brooklyn, N. Y.
51. Ovulation and Menstruation Not Interdependent Functions. C. C. Thayer, Clifton Springs, N. Y.
52. Contribution to Study of Dysmenorrhea. Geo. Tucker Harrison, New York City.
53. The Sins of Omission and Sins of Commission. G. H. Balleray, Paterson, N. J.
54. Confinement Following a Supposed Double Ovariotomy, Complicated with Intestinal Hernia Through the Old Laparotomy Wound. Henri Leonard, Detroit, Mich.
55. Surgery of Uterus and Other Pelvic Structures, Per Vaginam. W. H. Wathen, Louisville, Ky.
56. Treatment of Menorrhalgia (Dysmenorrhea) of Pelvic Origin, by Electricity. G. Betton Massey, Philadelphia.

SECTION ON SURGERY AND ANATOMY.

1. Suggestions in Plastic Surgery of the Face. J. B. Roberts, Philadelphia.
2. Two Cases of Growths in Frontal Sinus. W. D. Hamilton, Columbus, Ohio.
3. Injuries of the Skull and Its Contents. W. H. Earles, Milwaukee, Wis.
4. Traumatic Spine: Contribution to Mechanical Treatment of the Same, with Report of Cases. Geo. R. Elliott, New York City.
5. Laminectomy for Diseases and Injuries of the Cord. Samuel Lloyd, New York City.
   Discussion opened by H. Wharton, Philadelphia.
6. External Drainage of Superficial Lung Cavities, with Report of Two Successful Cases. W. L. Wills, Los Angeles, Cal.
   Discussion opened by J. B. Murphy, Chicago.
7. A Retrospect of Surgery of the Stomach. H. O. Walker, Detroit, Mich.
8. Non-Perforating Gastric Ulcer With and Without Hemorrhage. W. L. Rodman, Philadelphia.
9. Anterior Transverse Gastro-Enterostomy with Splitting of the Upper Anterior One-Half of Intestinal Wound. Christian Fenger, Chicago.
   Discussion opened by Fenton B. Turck, Chicago.
10. Two Successful Operations: *a.* Cholelithiasis. *b.* Hepatonephroptosis: Cure by Cholecystorrhaphy. A. F. Jonas, Omaha, Neb.
11. Diagnosis and Treatment of Cholelithiasis. W. J. Means, Columbus, Ohio.
12. Removal of Mucous Membrane of Gall-Bladder, a Substitute for Cholecystotomy. W. J. Mayo, Rochester, Minn.
13. Importance of Early Operation for Biliary Calculi. M. H. Richardson, Boston, Mass.
    Discussion opened by W. W. Keen, Philadelphia.
14. Colostomy for Permanent Fecal Fistula. J. A. Wyeth, New York City.
15. Exclusion of the Intestinal Area from the Fecal Tract. J. B. Murphy, Chicago.
16. Original Investigations on the Anatomy and Histology of Rectum and Colon, Together with Treatment of Obstinate Constipation for Obstipation Based on These Points. J. R. Pennington, Chicago.
    Discussion opened by G. R. Fowler, Brooklyn, N. Y.
17. Gunshot Wounds of Abdomen. W. F. Westmoreland, Atlanta, Ga.
18. Gastric and Intestinal Wounds. D. W. Cowley, Oakland, Cal.
19. Lesions of Abdominal Viscera Without Injury to the Skin. Geo. T. Vaughan, Washington, D. C.
20. Repair After Resection of Intestine. W. A. Evans, Chicago.
    Discussion opened by F. H. Wiggin, New York City.
21. Appendicitis: Colitis as an Etiologic Factor, and the Operation of Removing the Appendix in All Cases Operated on. Miles S. Porter, Ft. Wayne, Ind.
22. Comments on Appendicitis as Commonly Practiced. Joseph Price, Philadelphia.

23. Appendiceal Fistula. J. B. Deaver, Philadelphia.
Discussion opened by Robt. T. Morris, New York City.

24. Treatment of Ventral Hernia in Children
A. J. Ochsner, Chicago.

25. Treatment of Ventral Hernia.
M. M. Johnson, Hartford, Conn.

26. Remarks on Injection Method of Treating Hernia, with Comments. G. G. Cotton, Rock Rapids, Iowa.

27. Cure of Inguinal Hernia in Men. H. O. Marcy, Boston.
Discussion opened by W. B. De Garmo, New York City.

28. Diagnosis of Calculus Disease of Kidney, Ureters and Bladder by Roentgen Method.
C. L. Leonard, Philadelphia.

29. Movable Kidney. M. L. Harris, Chicago.

30. Treatment of Injuries of the Ureter.
B. B. Davis, Omaha, Neb.

31. Vesicorectal Anastomosis for Exstrophy of Bladder, with Report of Case. A. E. Halstead, Chicago.

32. Exstrophy of Bladder, with Exhibition of Case.
Ap Morgan Vance, Louisville, Ky.
Discussion opened by Edward Martin, Philadelphia.

33. Tuberculosis of Prostate and Vesiculæ Seminales.
A. I. Bouffleur, Chicago.

34. Contribution to Surgical Asepsis of Urethra and Bladder.
Ferd C. Valentine, New York City.

35. Treatment of Prostatic Hypertrophy.
Parker Syms, New York City.

36. Indications of Urethrotomy.
G. Frank Lydston, Chicago.
Discussion opened by C. C. Thayer, Clifton Springs, N.Y.

37. Use of Decalfied Bone Chips in Diseases of the Bones.
J. G. Carpenter, Stanford, Ky.

38. Bone Tuberculosis. DeForrest Willard, Philadelphia.

39. Treatment of Tubercular Knee-Joint.
Wisner Townsend, New York City.

40. Operative Treatment of Disease of Shafts of Long Bones.
S. L. McCurdy, Pittsburg, Pa.
Discussion opened by Nicholas Senn, Chicago.

41. Fractures of Patella. J. M. Barton, Philadelphia.

42. Restitution of Continuity of Shaft in Tibia, by Transplantation of Patella Between the Fragments.
N. Senn, Chicago.

43. Operative Treatment for Reduced and Irreducible Dislocations. Arthur Dean Bevan, Chicago.

44. Ambulatory Treatment of Fracture, with Demonstration of a New Apparatus for Cases of Fracture Below the Knee.
E. H. Lee, Chicago.
Discussion opened by by C. A. Powers, Denver, Colo.

45. Surgical Errors of Skiagraphy.
Carl Beck, New York City.

46. Report of Five Cases of Tetanus, Treated with Antitetanic Serum. J. D. Blake, Baltimore, Md.

47. Old Age Influencing Surgical Operations.
J. P. Tuttle, New York City.

48. Report of Case of Specific Myositis, Simulating Retroperitoneal Sarcoma. Ernest LaPlace, Philadelphia.

49. Sarcoma of Colon, with Report of Case.
C. Van Zwalenberg, Riverside, Cal.

50. Coccygeal Dermoids.
J. R. Eastman, Indianapolis, Ind.

SECTION ON STATE MEDICINE.

1. The Stamping Out of Typhoid Fever.
Samuel Knox Crawford, Chicago.
James Martin, Fredricksburg, Ohio.

2. Prevention of Tuberculosis by the State.
Benjamin Lee, Philadelphia.
Discussion by J. N. Hurty, Indianapolis, Ind., and Henry Mitchell, Trenton, N. J.

3. Experiences with Recent Epidemic of Rabies in Buffalo.
Ernest Wende, Buffalo, N. Y.

4. Municipal Regulation of the Spitting Habit.
E. B. Borland, Pittsburg, Pa.

5. Pollution of Streams and Purification of Public Water-Supplies. George M. Kober, Washington, D.C.

6. Present State of Interstate Reciprocity Concerning Licenses to Practice Medicine. E. Amberg, Detroit, Mich.

7. Venereal Disease as a Social Problem.
W. C. Gates, Rockland, Mich.

8. Pure Food Legislation.
Murray G. Motter, Washington, D. C.

SECTION ON OPHTHALMOLOGY.

Tuesday, June 5—Afternoon Session.

1. Address of Chairman.
H. V. Würdemann, Milwaukee, Wis.

2. Treatment of Conical Cornea: Optical Therapeutics.
Swan M. Burnett, Washington, D. C.

3. Operations. Robert Sattler, Cincinnati, Ohio.
Discussion opened by Herman Knapp, New York City, and Samuel D. Risley, Philadelphia.

4. Keratitis Bullosa, with Report of Case.
E. O. Sisson, Keokuk, Iowa.
Discussion opened by Casey A. Wood, Chicago.

5. Observations on Etiology of Scrofulous or Phlyctenular Keratitis and Its Treatment by Salicylate of Sodium.
H. Gradle, Chicago.

6. Use of Protargol in Pyogenic Affections of the Cornea.
F. C. Hotz, Chicago.
Discussion opened by L. Webster Fox, Philadelphia.

Wednesday, June 6—Morning Session.

EXHIBITION OF SPECIMENS AND NEW INSTRUMENTS.

7. A Double Trial Lens to Balance the Eyes in Presbyopia.
Mark D. Stevenson, Akron, Ohio.
Discussion opened by James Thorington, Philadelphia.

8. Relative Value of Instruments Used for Keratometry, with Demonstrations of Different Ophthalmometers.
A. D. McConachie, Baltimore, Md.
Discussion opened by A. Edward Davis, New York City.

9. Astigmatism, Its Detection and Correction.
H. Bert Ellis, Los Angeles, Cal.

10. Remarks on the Value of Homatropin as a Cycloplegic—A Clinical Study. E. C. Ellett, Memphis, Tenn.

11. A Comparison of the Cycloplegic Action of Atropin and Scopolamin. W. K. Rogers, Columbus, Ohio.

12. How to Construct Curves Representing Relative Accommodation and Convergence. Lucien Howe, Buffalo, N. Y.
Discussion opened by Edward Jackson, Denver, Colo.

Wednesday June 6—Afternoon Session.

RELATION OF OCULAR DISEASES AND VISUAL DEFECTS TO VOCATIONS.

13. Estimation of Amount of Injury to the Business Capacity of the Individual from Partial or Complete Loss of Vision. H. T. Hansell, Philadelphia.

14. What Amount of Visual Defect Should Disqualify in Railroad and Steamship Service? Frank Allport, Chicago.
Discussion opened by C. H. Williams, Boston; Robert Sattler, Cincinnati, Ohio.

15. Amount of Myopia Corrected by Removal of the Crystalline Lens. Edward Jackson, Denver, Colo.
Discussion opened by John E. Weeks, New York City.

16. Lessons Learned from a First Series of 100 Cataract Extractions. F. T. Rogers, Providence, R. I.
Discussion opened by E. E. Holt, Portland, Me.

17. Secondary Operations on Capsular Membranes.
Peter A. Callan, New York City.
Discussion opened by H. Knapp, New York City.

18. Systematic Cleansing of Nasal Cavities Before Operations Which Involve Opening of the Eyeball.
J. A. Lippincott, Pittsburg, Pa.
Discussion opened by H. Gradle, Chicago.

19. Case of Coloboma of Each Lens Without Coloboma of Iris or Choroid. James Moores Ball, St. Louis, Mo.
Discussion opened by A. D. McConachie, Baltimore, Md.

Thursday, June 7—Morning Session.

EXHIBITION OF SPECIMENS AND NEW INSTRUMENTS.

20. An Improved Lantern for Testing Color Perception.
C. H. Williams, Boston, Mass.

21. A Double Hook for Use in Advancement Operations.
C. F. Clarke, Columbus, Ohio.

22. Demonstration of a Tubercular Tumor of the Orbit. H. F. Hansell Philadelphia.

Discussion opened by Jno. E. Weeks, New York City.

23. Demonstration of Sections of an Unusual Intraocular Growth. Wilber P. Marple, New York City.

24. The Douche in the Treatment of Purulent Conjunctivitis. E. E. Holt, Portland, Me.

25. An Insurance Case in Which Ossification of the Choroid Led to Identification of the Body. Robert L. Randolph, Baltimore, Md.

Discussion opened by A. R. Baker, Cleveland, Ohio.

Thursday, June 7—Afternoon Session.

RATIONAL USE AND LIMITATIONS OF THERAPEUTIC MEASURES INTENDED TO PROMOTE ABSORPTION OF EXUDATES WITHIN THE EYEBALL.

26. Medicinal Measures. Randolph Brunson, Hot Springs, Ark.

27. Local Therapeutics. M. Uribe Troncoso, Mexico City, Mex.

28. Present Status and Value of Massage of the Eyeball, with the Consideration What Diseases of the Eye May Be Favorably Influenced by This Therapeutic Measure, and What Are the Best Means of Its Application. Casey A. Wood, Chicago.

29. Use and Abuse of Iodid of Potash in Ophthalmic Practice. A. R. Baker, Cleveland, Ohio.

Discussion opened by Geo. M. Gould, Philadelphia; S. C. Ritchie, Washington, D. C.; J. Santos Fernandez, Havana, Cuba; J. A. Pratt, Aurora, Ill.

30. Use of Heat as a Therapeutic Agent in Chronic Eye Affections. L. J. Lautenbach, Philadelphia.

Discussion opened by Leartus Connor, Detroit, Mich.

Friday, June 8—Morning Session.

EXHIBITION OF SPECIMENS AND NEW INSTRUMENTS.

31. A Recording Electric Perimeter. Wm. M. Sweet, Philadelphia.

Discussion opened by H. O. Reik, Baltimore, Md.

32. Treatment of Immature Cataract with Special Reference to Rate of Development and Such Measures as May Check it. G. E. de Schweinitz, Philadelphia.

Discussion opened by John E. Weeks, New York City; Abner W. Calhoun, Atlanta, Ga.; and Samuel D. Risley, Philadelphia.

33. Report of Cases: *a.* Injury of the Eye, Iridocyclitis, Enucleation, Death from Meningitis. *b.* Case of Exophthalmus Due to Septic Thrombosis (?) Evisceration of Orbital Contents—Cure. Edw. J. Bernstein, Baltimore, Md.

34. Paresis of External Recti Associated with Irregular Tabes. G. Oram Ring, Philadelphia.

Discussion opened by Samuel D. Risley, Philadelphia.

35. Glioma of Retina. G. A. Sulzer, Portsmouth, Ohio.

Discussion opened by G. E. de Schweinitz, Philadelphia.

36. Hemorrhagic Glaucoma. W. C. Posey, Philadelphia.

Discussion opened by Chas. A. Oliver, Philadelphia.

37. Ocular Complications of Injuries to the Head. With Report of Two Cases. J. T. Carpenter, Philadelphia.

Discussion opened by H. T. Hansell, Philadelphia.

38. Blindness from Drinking Jamaica Ginger: Recovery. Edward Stieren, Pittsburg Pa.

Discussion opened by R. L. Randolph, Baltimore, Md.

39. Case of Extensive Laceration of External Ocular Muscles with Resultant Diplopia. Spontaneous Recovery.

40. Clinical Lessons of 200 Cases of Hyperphoria. Wendell Reber, Philadelphia.

SECTION ON DISEASES OF CHILDREN.

Tuesday, June 5—Morning Session.

1. Address of Chairman. Edwin Rosenthal, Philadelphia.

SESSION DEVOTED TO CONSIDERATION OF FEEBLE-MINDED AND TO NERVOUS DISEASES.

2. Etiology of Idiocy and Imbecility. Martin W. Barr, Elwyn, Pa.

3. Physiologic Training of Feeble-Minded. S. J. Fort, Ellicott City, Md.

4. Care of Higher Grades of the Feeble-Minded. A. W. Wilmarth, Chippewa Falls, Wis.

5. A Study of the Circulation in the Feeble-Minded. J. Madison Taylor and F. Savary Pearce, Philadelphia.

6. Infantile Cerebral Palsies. A. C. Cotton, Chicago.

Discussion by Wm. M. Leszynsky, New York City; I. N. Love, St. Louis, Mo.; W. S. Christopher, Chicago; John S. Musser, De Forrest Willard, and F. X. Dercum, Philadelphia; H. N. Moyer, Chicago; Louis Faugeres Bishop, New York City; J. P. Crozer Griffith, Philadelphia.

Tuesday, June 5—Afternoon Session.

SESSION DEVOTED TO CONSIDERATION OF DISEASES OF THE BLOOD AND THE CIRCULATION.

7. Antecedents of Valvular Heart Disease in Children. Frederick A. Packard, Philadelphia.

8. Purpura Hemorrhagica or Scorbutus: A Clinical Sketch. Henry E. Tuley, Louisville, Ky.

9. Rheumatism. Samuel E. Woody, Louisville, Ky.

10. Chorea. J. Clements, Kansas City, Mo.

11. Medicinal and Surgical Treatment of So-Called Scrofula. G. M. Blech, Chicago.

12. Essential Points of Difference in Treatment of Adolescent Senile Heart. John A. Robison, Chicago.

13. Abortive Treatment of Pneumonia. Henry Illoway, New York City.

Discussion on Pneumonia by Ewd. F. Wells, Chicago.

Discussion opened by Alfred Stengel, Philadelphia; S. Solis-Cohen, Philadelphia; Edwin E. Graham, and S. S. Adams, Washington, D. C.; J. J. Morrissey, New York City.

14. Value of Blood Examinations for Diagnostic Purposes. J. Brandeis, New York City.

15. Diabetes Mellitus in Children: Report of Two Cases. Leopold F. Haas, New York City.

Wednesday, June 6—Morning Session.

SESSION DEVOTED TO THE CONSIDERATION OF INFANT FEEDING AND TO DISEASES OF DIGESTIVE TRACT.

16. Milk Supply and Control at the Kaiserin Friedrich Hospital. Adolf Baginsky and Paul Sommerfeld, Berlin.

Read by Louis Fischer, New York City.

17. Infant Feeding. Alexander McAlister, Camden, N. J.

Discussion opened by Henry D. Chapin, New York City; Victor C. Vaughan, Ann Arbor, Mich.; and William Leland Stowell, New York City.

19. Gastrointestinal Hemorrhage in the New-Born. Edward H. Small, Pittsburg, Pa.

18. Infant Feeding; Accidents and Incidents. Wm. P. Northrup, New York City.

20. Causation and Relative Frequency of Typhlitis, Perityphlitis and Appendicitis in Infancy and Childhood. Joseph N. Byrne, New York City.

21. Differential Diagnosis Between Abdominal Typhoid and Appendicitis, by Means of Iodin Reaction: Report of Case. S. Weiss, Vienna.

22. Congenital Malformation of Rectum. A Case of Maternal Impression. Thomas Charles Martin, Cleveland, Ohio.

23. Athrepsia Infantum; Diagnosis and Treatment. Louis Fischer, New York City.

24. New Home Milk Modifier: Demonstration.

25. Clinical Significance of Stools in Diarrhea of Infants. William E. Darnall, Atlantic City, N. J.

Wednesday, June 6—Afternoon Session.

SESSION DEVOTED TO CONSIDERATION OF CONTAGIOUS DISEASE.

26. Shall Children be Kept from Measles and Exanthemata Usually Incident to Children? C. F. Wahrer, Fort Madison, Iowa.

27. Rötheln, A Distinct Affection Apart from Measles and Scarlatina, and Its Differentiation from These Exanthemata. Henry Koplik, New York City.

28. Clinical and Pathologic Study of Rash of Scarlet Fever, with Especial Reference to Origin and Character of Desquamation. Jay F. Schamberg, Philadelphia.

29. *Differential Diagnosis of Influenza with Eruptions, and Infectious Diseases of Childhood.*
A. S. Daniel, New York City.

30. Fetal and Infantile Typhoid.
Jno. Lovett Morse, Boston.

31. Intubation in Private Practice, and Its Perfection.
Joseph Trumpp, Munich.
Read by the Secretary.

32. Resulting Injuries Due to Extubation.
Janos Bokay, Budapest.
Read by Alexander Klein, Philadelphia.

33. Treatment of Ear Complications in Measles, Diphtheria and Scarlet Fever. Charles W. Hoopes, Philadelphia.
Discussion by Wm. M. Welch, W. C. Hollopeter, S. Solis-Cohen, Philadelphia; Louis Fischer, Wm. P. Northrup and Dillon Brown, New York City.

Thursday, June 7—Afternoon Session.

SESSION DEVOTED TO CONSIDERATION OF SCHOOL CHILDREN.

34. Symmetrical Development; or, Does Our Present School System Develop the Highest Powers of the Child?
E. Stuver, Fort Collins, Colo.

35. School Break-Downs.
J. Henry Bartlett, Philadelphia.

36. Eye Strain. Thomas H. Fenton, Philadelphia.

37. Care of Ear in School Children.
Louis J. Lautenbach, Philadelphia.

38. Neglect of Teeth in Children.
A. D. Rosenthal, New York City.

39. Physician's Responsibility in Physical Education of School Children. Grace E. Spiegle, Philadelphia.
Discussion by F. X. Dercum, Philadelphia; C. F. Wahrer, Fort Madison, Iowa.

Friday, June 8—Morning and Afternoon Sessions.

SESSION DEVOTED TO SURGICAL SUBJECTS.

40. Movable Kidney (Floating) in Children.
Isaac A. Abt, Chicago.

41. Symptomatology of Appendicular Inflammation in Children. Thomas H. Manley, New York City.

42. Normal Salt Transfusion in New-Born for Hemorrhage from Cord. John S. Miller, Philadelphia.

43. Some Joint Diseases in Children; Their Diagnosis and Treatment. Edward A. Tracy, South Boston, Mass.

44. Diseases of Antrum of Highmore in Young Children, with Report of Case. Emil Mayer, New York City.

45. Surgical Circumcision: Its Technique; Prevention of Infection; Its Legal Control; Should be Performed by None but Physicians.
Ferd. C. Valentine, New York City.

SECTION ON STOMATOLOGY.

Tuesday, June 5—Afternoon Session.

Address of Chairman. Eugene S. Talbot.

SYMPOSIUM ON DENTAL EDUCATION.

1. Relations of Dental and Oral Surgery to General Medicine: Professional Status of Properly Educated Practitioners of Dental and Oral Surgery.
N. S. Davis, Sr., Chicago.

2. Preliminary Qualifications. J. Taft, Cincinnati, Ohio.

3. Course of Study. W. A. Evans, Chicago.

4. Methods of Teaching—Didactic or Recitational.
A. H. Peck, Chicago.

Wednesday, June 6—Morning Session.

5. Shall the Dental Student be Educated Independently of General Medicine? G. V. I. Brown, Milwaukee, Wis.

6. Is Medical Education a Necessary Qualification for Dental Practice? Alice Steeves, Chicago.

7. Is Medical Education a Necessary Qualification for Dental Practice? R. R. Andrews, Cambridge, Mass.

8. Practical Value of a Medical Education in Dental Practice. W. B. Hill, Milwaukee, Wis.

9. Technical Training versus Theoretic.
John S. Marshall, Chicago.

Wednesday, June 6—Afternoon Session.

10. Should the Medical Undergraduate be Instructed in the Principles of Dentistry? M. L. Rhein, New York City.

11. Post-Graduate Study in Dentistry and Degrees Therefor.
W. E. Walker, Pass Christian, Miss.

12. The Handwriting on the Wall: What does it Portray?
A. E. Baldwin, Chicago.

13. Limitations. Eugene S. Talbot, Chicago.

Thursday, June 7—Morning Session.

SYMPOSIUM ON INTERSTITIAL GINGIVITIS OR SO-CALLED PYORRHEA ALVEOLARIS.

14. Etiology. G. Lenox Curtis, New York City.

15. Neurotic Affections. J. G. Kiernan, Chicago.

16. Indigestion Autointoxication. Eugene S. Talbot, Chicago.

17. Chemical Factors in Etiology. W. L. Baum, Chicago.

18. Constitutional Treatment. J. H. Salisbury, Chicago.

Thursday, June 7—Afternoon Session.

19. Local Treatment. M. H. Fletcher, Cincinnati, Ohio.

20. So-Called Glands in the Peridental Membrane.
M. H. Fletcher, Cincinnati, Ohio.

21. Evolution of Decay Continued.
Arch C. Hart, San Francisco, Cal.

22. Co-operation of Public Schools in Teaching. Good Teeth, Good Health. Whatever We Wish to See Introduced Into the Life of a Nation Must First Be Introduced Into Its Schools. Richard Grady, Baltimore, Md.

23. Oral Surgical Operations. G. V. I. Brown, Milwaukee, Wis.

SECTION ON NEUROLOGY AND MEDICAL JURISPRUDENCE.

The Hotel Brighton will be headquarters of this Section, and the meetings will be held there. There will be no morning sessions unless necessary for completion of the program.

Tuesday, June 5—Afternoon Session.

1. Address of Chairman. Hugh T. Patrick, Chicago.

2. Report of Eight Operations for Brain Tumors and Cysts.
Herm. H. Hoppe, Cincinnati, Ohio.

3. Diagnosis of Apoplexy Without Motor Paralysis.
William N. Bullard, Boston.

4. A Case Resembling one of Raynaud's Disease, With Microscopic Examination. William G. Spiller, Philadelphia.

5. Legal Responsibility of Degenerates not Insane.
David Inglis, Detroit, Mich.

6. Therapeutics of Travel and Change of Scene in Nervous and Mental Diseases. Richard Dewey, Chicago.

7. Post-febrile Insanity and Its Treatment.
Frank P. Norbury, Jacksonville, Ill.

8. Cranial Injuries and Insanity, with Report of Case.
Eugene G. Carpenter, Columbus, Ohio.

9. Medicolegal Relations of Opium Inebriety.
T. D. Crothers, Hartford, Conn.

10. Morphinism from the Standpoint of the General Practitioner. T. J. Happel, Trenton, Tenn.

Wednesday, June 6—Afternoon Session.

11. The Nervous Diseases Caused by Trauma.
Chas. W. Burr, Philadelphia.

12. Nature and Symptomatology of Traumatic Neuroses.
Harold N. Moyer, Chicago.

13. Traumatic Neuroses from the Standpoint of a Railway Surgeon. Arthur Dean Bevan, Chicago.

14. Medicolegal Relations of Traumatic Nervous Affections.
James Hendrie Lloyd, Philadelphia.

15. An Analysis of Cases of Traumatic Neuroses with Special Reference to Prognosis.
James Jackson Putnam, Boston.

16. Prognosis and Treatment of Traumatic Neuroses.
Wharton Sinkler, Philadelphia.
Discussion opened by Daniel R. Brower, Herm. H. Hoppe, and Francis X. Dercum.

17. Treatment of Neurasthenia.
Daniel R. Brower, Chicago.

18. Some Methods of Treating Neuralgia.
W. J. Herdman, Ann Arbor, Mich.

19. Modern Treatment of Locomotor Ataxia.
Curran Pope, Louisville, Ky.

20. Subject Unannounced.
Francis X. Dercum, Philadelphia.

Thursday, June 7—Afternoon Session.

2 o'clock.

21. Diagnosis of Hysteria from Organic Disease of the Brain. Chas. K. Mills, Philadelphia.
22. Diagnosis of Hysteria from Organic Disease of the Spinal Cord and Peripheral Nerves. Frederick Peterson, New York City.
23. General Treatment of Hysteria. B. Sachs, New York City.
24. Technique of the "Rest Cure," with Indications and Contraindications for its Use. John K. Mitchell, Philadelphia. Discussion to be opened by C. W. Burr, John Punton, William G. Spiller and W. J. Herdman.
25. Differentiation of Chorea and Disorders Simulating It. A. A. Eshner, Philadelphia.
26. Prophylaxis of Chorea. J. Madison Taylor, Philadelphia.
27. On a Certain Routine Treatment for Gouty Conditions. Frank R. Fry, St. Louis, Mo.
28. Combined Sclerosis of the Lichtheim-Putnam-Dana Type Accompanying Pernicious Anemia. F. W. Langdon, M. A. Brown and D. I. Wolfstein, Cincinnati, Ohio.
29. Aphasia: Report of Case. Guy Hinsdale, Philadelphia.

Friday, June 8—Afternoon Session.

2 o'clock.

30. Subject Unannounced. J. Hendrie Lloyd, Philadelphia.
31. Migraine, with the Consideration of Heredity. D. J. McCarthy, Philadelphia.
32. Case of Gastric Vertigo Closely Simulating Meinère's Disease. G. W. McCaskey, Fort Wayne, Ind.
33. Evolutional and Involutional Types of Nervous Disease. Ed. E. Mayer, Pittsburg, Pa.
34. Effect of Alcohol on the Nervous System. Albert E. Sterne, Indianapolis, Ind.
35. Case of Transient Motor Aphasia, Complete Anomia, Nearly Complete Aphasia and Slight Word-Blindness, Occurring in a Left-Handed Man, and Due to a Probable Lesion of the Third Frontal Convolution of the Right Side. Chas. S. Potts, Philadelphia.
36. Hereditary Color-Blindness. F. Savary Pearce, Philadelphia.
37. Pathophobia as an Element of Nervous Diseases and its Treatment. John Punton, Kansas City, Mo.
38. Post-Anesthetic Paralysis. C. C. Hersman, Pittsburg, Pa.
39. The Insanities. William Francis Drewry, Petersburg, Va.
40. The Simplest Explanation of the Functions of the Nervous System. G. W. Drake, Hollins, Va.
41. Drug Habits. A. J. Pressey, Cleveland, Ohio.
42. A Study of Cerebral Syphilis, with Report of Case. Jas. H. McBride, Pasadena, Cal.
43. Case of Gastric Vertigo Closely Simulating Menière's Disease. G. W. McCaskey, Fort Wayne, Ind.

SECTION ON CUTANEOUS MEDICINE AND SURGERY.

Tuesday, June 5—Afternoon Session.

3 o'clock.

1. Address of Chairman: "Recent Advances in Dermatology Which are of Service to the General Practitioner." L. Duncan Bulkley, New York City.
2. Treatment of Skin Cancers. Louis A. Duhring, Philadelphia.
3. An Additional Note on Herpes Gangrenosus. A. W. Brayton, Indianapolis, Ind.
4. A Peculiar Progressive Pigmentary Disease of the Skin. Jay F. Schamberg, Philadelphia.
5. Report of Four Cases of Lupus Vulgaris Treated with X-Rays. William B. Ewing, Pittsburg, Pa.

Wednesday, June 6—Afternoon Session.

6. Leucopathia Ungium; Some Etiologic and Pathologic Considerations. M. L. Heidingsfeld, Cincinnati, Ohio.
7. Syphilis as a Nonvenereal Disease. L. Duncan Bulkley, New York City.
8. Successful Treatment of Skin Cancers Without Operation. Henry W. Stelwagon, Philadelphia.
9. Xeroderma Pigmentosum (With Lantern Slide Illustrations). A. Ravogli, Cincinnati, Ohio.
10. Syphilitic Gumma of Larynx. Edward T. Dickerman, Chicago.

Thursday, June 7—Afternoon Session.

11. Acute Suppurative Folliculitis of Scalp. William S. Gottheil, New York City.
12. Diagnosis and Treatment of Pruritus Essentialis. Fred J. Leviseur, New York City.
13. Clinical Study of Pityriasis Versicolor and Pityriasis Rosæ. Charles W. Allen, New York City.
14. Pemphigus of Mucous Membrane of Mouth. William L. Baum, Chicago.
15. Some of the Rarer Skin Manifestations of Syphilis. J. A. Fordyce, New York City.
16. Treatment of Syphilis: General Discussion.

SECTION ON LARYNGOLOGY AND OTOLOGY.

Tuesday, June 5—Afternoon Session.

2 o'clock.

1. Address of Chairman. Christian R. Holmes, Cincinnati, Ohio.
2. Address on Laryngology and Its Relation to General Medicine. (By Invitation.) J. Solis-Cohen, Philadelphia.
3. Import of Bacteria As Found in the Ear, Nose and Throat. D. Braden Kyle, Philadelphia.
4. Comminution of Thyroid Cartilages Due to a Bullet Whose Point of Entrance Was in the Frontal Bone. Emil Mayer, New York City.
5. Papilloma of Larynx. E. T. Dickerman, Chicago.
6. Unusual Papillomatous Growth in Larynx. Jas. S. Gibbs, Philadelphia.
7. Angina Epiglottida Anterior. C. F. Theisen, Albany, N. Y.
8. Care and Use of Instruments. A. DeVilbiss, Toledo, Ohio.
9. Embryonic Defects of Nose, Throat and Ear and Their Causes, with Lantern Exhibition. Geo. C. Stout, Philadelphia.

Wednesday, June 6—Morning Session.

9 o'clock.

10. The Atrophic Pharynx. R. W. Seiss, Philadelphia.
11. Present Status of Antitoxin Treatment. S. J. Allen, Cincinnati, Ohio.
12. Some Experiments on Relation Between Audition and Circulation of Blood. H. Stillson, Seattle, Wash.
13. Some Points in Diagnosis of Syphilis of Upper Air-Passages. Geo. L. Richards, Fall River, Mass.
14. Remarks on Internal and External Operations for Chronic Frontal Sinusitis. R. C. Myles, New York City.
15. Hysterical Deafness, with Report of Cases. A. E. Bulson, Jr., Fort Wayne, Ind.
16. Ear Diseases in Childhood and Infancy. J. Homer Coulter, Chicago.
17. Value of Enzymol in Treatment of Acute and Chronic Purulent Affections of Mastoid, Tympanic and Accessory Cavities, Based on Bacteriologic Study of Fifty Cases. Talbot R. Chambers, Jersey City, N. J.
18. Notes on Two Cases of Voluntary Laryngeal Whistling. G. Hudson Makuen, Philadelphia.

Wednesday, June 6—Afternoon Session.

2 o'clock.

SYMPOSIUM ON INFLAMMATION OF MASTOID.

19. Tympanomastoiditis in Children. (By Invitation.) Herman Knapp, New York City.
20. Complications of Mastoid Abscess. C. W. Richardson, Washington, D. C.

21. Some Observations in Mastoid Operations.
A. W. Calhoun, Atlanta, Ga.
22. Primary Tuberculosis of the Mastoid.
M. A. Goldstein, St. Louis, Mo.
23. Report of Three Cases of Ligation of Internal Jugular for Septic Thrombosis, Following Purulent Otitis Media: Recovery. E. B. Dench, New York City.
24. Suppurating Mastoiditis, with Report of Cases.
J. H. Bryan, Washington, D. C.

General discussion on the Symposium, opened by Fred Whiting, New York City.

25. Limitation of Ossiculectomy and Tympanic Curettement.
Frank Allport, Chicago.
26. Bony Defects and Fistulæ in the Meatus in the Ear.
H. Gradle, Chicago.
27. Accessory Sinus Affections.
E. L. Vansant, Philadelphia.
28. Enlarged Lingual Tonsil: Report of Case.
Frank D. Boyd, Fort Worth, Texas.

Thursday, June 7—Morning Session.

9 o'clock.

29. Sarcoma of Nasal Passages: Report of Cases.
Dunbar Roy, Atlanta, Ga.
30. Untoward Sequence of Adenoid Operations.
E. L. Shurly, Detroit, Mich.
31. Various Forms of Nasal Hemorrhage.
W. Scheppegrel, New Orleans, La.
32. General Bodily Resistance as a Factor in History and Cure of Nose and Throat Diseases.
F. L. Stillman, Columbus, Ohio.
33. Limitation of Laryngologist in General Treatment of Nose and Throat Diseases. H. W. Loeb, St. Louis, Mo.
34. Treatment of Atrophic Rhinitis by Electrolysis and Some Experiments to Determine Efficiency of Needles of Different Metals. Carolus M. Cobb, Lynn, Mass.
35. Treatment of Deflection of Nasal Septum, Complicated by Traumatic Deformity of External Bony and Cartilaginous Framework of Nose.
E. B. Gleason, Philadelphia.
36. Neuroses of Larynx. J. F. Woodward, Norfolk, Va.
37. Cough Due to Reflex Irritation in Upper Air-Passages.
F. H. S. Milbury, Brooklyn, N. Y.
38. Immunizing Treatment of Hay-Fever.
Holbrook H. Curtis, New York City.

Thursday, June 7—Afternoon Session.

2 o'clock.

39. Ocular Expression of Intranasal Lesions.
Robert Sattler, Cincinnati, Ohio.
40. Systemic Factors in Catarrhal Deafness.
Sargent F. Snow, Syracuse, N. Y.
41. Diagnosis and Prognosis of Ear Disease.
B. Alexander Randall, Philadelphia.
42. Unusual Ocular Symptoms Following Removal of Septal Spurs. J. L. Goodale, Boston.
43. Lithemia from Otorhinologic Point of View.
Chevalier Jackson, Pittsburg, Pa.
44. Aural Manifestations of Hysteria.
Norval H. Pierce, Chicago.
45. Fistula Auris Congenita. Operation and Important Complications. John O. McReynolds, Dallas, Texas.
46. Laryngeal Tuberculosis at Montefiore Home, New York City. W. Freudenthal, New York City.
47. Operation for Disease of Middle Ear.
W. F. Cole, Waco, Texas.
48. Modus of Infection of Maxillary Sinus.
M. H. Cryer, Philadelphia.
49. Nasopharyngeal Growth from Non-Use of Nose.
Norburne B. Jenkins, Chicago.

SECTION ON MATERIA MEDICA, PHARMACY AND THERAPEUTICS.

Tuesday, June 5—Afternoon Session.

2 o'clock Sharp.

1. Address of Chairman. Leon L. Solomon, Louisville, Ky.
2. Treatment of Acute Alcoholism by Large Doses of Digitalis. A Clinical Study Based on Cases in the Alcoholic Wards of Bellevue Hospital.
Henry P. Loomis, New York City.
3. Some Dangers from the Use of Narcotics in Young Persons. T. D. Crothers, Hartford, Conn.
4. Plea for Greater Simplicity in Therapeutics.
L. Faugeres Bishop, New York City.
5. Neglect of Old Remedies.
Herschel Fischer, Lebanon, Ohio.
6. Therapeutic Progress.
J. Tracy Melvin, Saguache, Colo.
7. Therapeutic Skepticism.
H. V. Sweringen, Fort Wayne, Ind.

Discussion by Drs. N. S. Davis, Jr., Chicago; Henry Loomis, New York City, and Frank Woodbury, Philadelphia.

8. Dietetic Treatment of Diabetes. N. S. Davis, Jr., Chicago.
9. *a.* Coma Diabeticum and its Treatment. *b.* The Milk Régime in the Diabetic State.
Heinrich Stern, New York City.

Discussion by Drs. F. L. Shattuck, Boston, Mass.; Chas. Lyman Greene, St. Paul, Minn.; O. T. Osborne, New Haven, Conn.; N. P. Barnes, Washington, D. C.

Wednesday, June 6—Morning Session.

9 o'clock Sharp.

10. Brief Note on Ointments and Some of Their Medical Applications. The Intraleiptic Method of Treatment.
Frank Woodbury, Philadelphia.
11. Present Views on Use of Unbroken Skin as an Absorbing Medium. Thomas F. Reilly, New York City.

Discussion by Drs. J. V. Shoemaker, Philadelphia; Geo. F. Butler, Alma, Mich.; H. A. Hare, Philadelphia; G. C. Ober, Washington, D. C.

12. The Metric System.
F. G. Wheatley, N. Abington, Mass.
13. Treatment of Migraine.
E. W. Mitchell, Cincinnati, Ohio.
14. Value of Potassium Bicarbonate in Practice.
Stephen Harnsberger, Catlett, Va.
15. Organic or Inorganic Preparations of Iron.
H. Finkelpearl, Pittsburg, Pa.
16. Idiosyncrasy Against Mercury. A Case of Erythema Mercuriale. A. Bernheim, Philadelphia.
17. Report of Case Illustrating Value of Rectal Injections of Salt Solution in Hemorrhage.
T. B. Greenley, Meadow Lawn, Ky.
18. Hydriatic Treatment of Chronic Disorders.
J. H. Kellogg, Battle Creek, Mich.

Wednesday, June 6—Afternoon Session.

2 o'clock Sharp.

19. Rôle of Drugs in the Management of Consumption.
S. Solis-Cohen, Philadelphia.
20. Importance of Early Recognition of Tuberculosis.
A. M. Holmes, Denver, Colo.

Discussion by Drs. Wm. H. Thompson, New York City; J. N. Upshur, Richmond, Va.; Henry P. Loomis, New York City.

21. Treatment of Chronic Interstitial Nephritis.
Chas. Lyman Greene, St. Paul, Minn.
22. Heart Tonics. J. N. Upshur, Richmond, Va.
23. Treatment of Gastric and Duodenal Ulcer.
F. L. Shattuck, Boston, Mass.
24. Some Points in Treatment of Gastric Ulcer.
D. D. Stewart, Philadelphia.
25. Classification of Medicines Based on the Time Required to Produce Their Effects.
Wm. H. Thomson, New York City.

Discussion by Drs. H. A. Hare, Philadelphia; G. F. Butler, Alma, Mich.; J. V. Shoemaker, Philadelphia, and Wm. Bailey, Louisville, Ky.

26. Therapeutics of Vertigo.
J. Leonard Corning, New York City.

Discussion by Drs. J. H. Musser, Philadelphia; D. R. Brower, Chicago; J. C. Culbertson, Cincinnati, Ohio; Samuel C. Busey, Washington, D. C.

27. Use of Adhesive Plaster in Various Internal Conditions. J. H. Musser, Philadelphia.

Thursday, June 7—Morning Session.

28. Therapeutics of Croupous Pneumonia. J. M. Allen, Liberty, Mo.
29. Therapy of Malignant Cases of Acute Infections. J. C. Lange, Pittsburg, Pa.
30. Increasing the Value of Cod-liver Oil by the Addition of Free Iodin and Free Phosphorus. Louis J. Lautenbach, Philadelphia.
31. Action of Chlorolose as a Hypnotic. James Tyson, Philadelphia.
32. Gastro-Intestinal Remedies in Typhoid Fever. J. M. Anders, Philadelphia.

Discussion by Drs. Frank Billings, Chicago; J. C. Lange, Philadelphia; J. M. Tyson, Philadelphia; and F. P. Morgan, Washington, D. C.

33. Chills from Obscure Causes. M. C. O'Brien, New York City.

Thursday, June 7—Afternoon Session.

34. Irrigation of the Colon as a Therapeutic Measure. Geo. J. Lochboehler, Washington, D. C.
35. Pharmaco-Physiologic Action of Drugs as Contrasted with Their Alleged Specific Action. Geo. F. Butler, Alma, Mich.

Discussion by Drs. J. M. Anders, Philadelphia; O. T. Osborne, New Haven, Conn.; C. D. Spivak, Denver, Colo.

36. Therapeutic Application of Organic Extracts. O. T. Osborne, New Haven, Conn.
37. Relative Value of Various Forms of Local Treatment in Erysipelas. Hobart A. Hare, Philadelphia.
38. Psychic Therapeutics. J. C. Culbertson, Cincinnati, Ohio.
39. Treatment of Addison's Disease, with Case. John V. Shoemaker, Philadelphia.
40. Lavage of Stomach as a Therapeutic Measure in Treatment of Constipation. C. D. Spivak, Denver, Colo.
41. Protest Against the Use of Proprietary Remedies. Daniel R. Brower, Chicago.
42. Symposium on New Remedies, Including Their Chemistry and Therapeutic Application. J. W. Wainwright, New York City.

Friday, June 8—Morning Session.

43. Decadence of the Crude Drugs. Lucius E. Sayre, Lawrence, Kan.
44. Pharmacologic Assay of Drugs and its Importance in Therapeutics. E. M. Houghton, Detroit, Mich.
45. What Standardization Means for the Physician. A. R. L. Dohme, Baltimore, Md.
46. The United States Pharmacopeia of 1900. Jos. P. Remington, Philadelphia.
47. The Pharmacopeia, The Medical Journal and the Profession. A. L. Benedict, Buffalo, N. Y.
48. Pharmacology and Ethics. F. E. Stewart, New York City.

Discussions by Drs. H. C. Wood, Philadelphia; G. F. Butler, Alma, Mich.; H. A. Hare, Philadelphia; Chas. Rice, New York City; J. V. Shoemaker, Philadelphia; *O. T. Osborne, New Haven, Conn.; J. M. Anders, Philadelphia.*

SECTION ON PHYSIOLOGY AND DIETETICS.

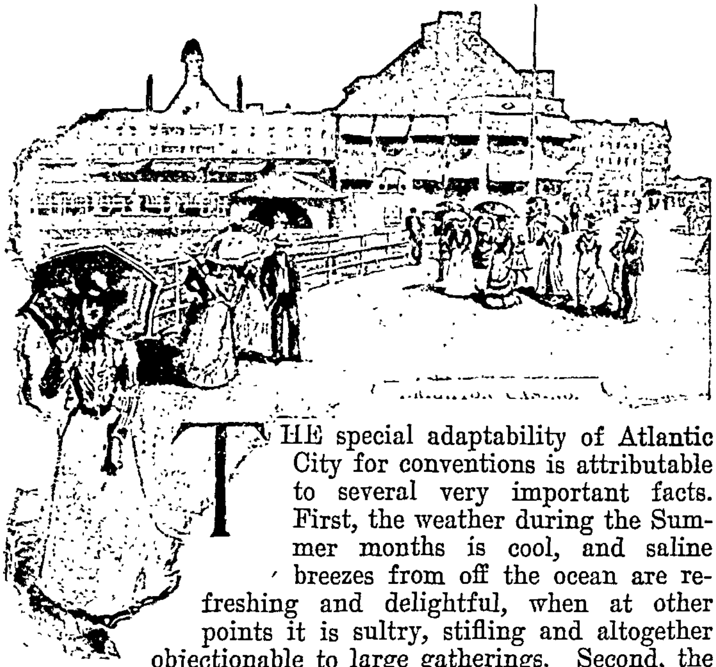
1. Address of Chairman. Elmer Lee, New York City.
2. Some Practical Points in Connection with the Physiology of Digestive Organs. A. L. Benedict, Buffalo, N. Y.
3. Movements of Intestines. A. Bernheim, Philadelphia.
4. Normal Respiration of the Still-Born. Daniel Lichty, Rockford, Ill.
5. Some Dietetic Fallicies. John Madden, Milwaukee, Wis.
6. Some Observations on the Excretion of the Alloxuric Bodies. Mark Millikin, Hamilton, Ohio.
7. Properties Which are Possessed by all Foods in Their Relation to Nutrition, and the Relation of Alcohol to Nutrition. Winfield S. Hall, Chicago.
8. Food in Health and Disease. E. Briggs, Wilmington, Ohio.
9. Dietetic Treatment of Typhoid Sequelæ in Children. Hugh F. Lorimer, Fair Haven, Ohio.
10. The Progression of an Entity. E. G. Bergen, Washington, N. J.
11. Life and Its Association with Matter; Matter not Vital but Absolutely Chemical. E. C. Hebbard, Boston.
12. Post-Operative Nervous Phenomena, or Artificial Menopause. *Joseph Price, Philadelphia.*
13. Is it Possible by Proper Dietetics and Hygiene to Exterminate Tuberculosis. J. E. Kinney, Denver, Colo.
14. Modern Covering of Foot as Affecting its Physiologic Action. Augustus P. Clarke, Cambridge, Mass.
15. Poisoning from Auto-Intoxications. T. D. Crothers, Hartford, Conn.
16. When Should Patients be Advised to Eat Everything. Boardman Reed, Philadelphia.
17. Synthesis of Cataract by Food. Ephraim Cutter, New York City.
18. Physiologic Explanation of Pharmacology. Elmer F. Gould, Carthage, Mo.
19. Solids of Skimmed Milk as a Food Product. William A. Hall, New York City.
20. Physiologic Care of Colds. Charles H. Shepard, Brooklyn, N. Y.
21. Contribution to Methods of Physiologic Training. Elmer Gates, Chevy Chase, Md.
22. Bone Food. B. T. Whitmore, New York City.
23. Alcohol; Is it a Food or Drug? A. T. Cuzner, Gilmore, Fla.
24. Poem. Dr. Crawford.

PROVISIONAL SECTION ON PATHOLOGY.

Program Prepared by Unofficial Committee on Pathologic Section. L. Hektoen, Chairman.

1. Hemorrhagic Infection in an Infant, due to the Typhoid Bacillus. George Blumer, Albany, N. Y.
2. Effect of Direct, Alternating and Tesla Currents on Bacteria. F. Robert Zeit, Chicago.
3. Pathologic Alterations of Mucous Membranes of Upper Respiratory Tract Following La Grippe. D. Braden Kyle, Philadelphia.
4. Bacterial Toxins. Victor C. Vaughan and Thomas B. Cooley, Ann Arbor, Mich.
5. Morphologic Variations in Pathogenic Bacteria, with Two Pronounced Examples. A. P. Ohlmacher, Gallipolis, Ohio.
6. Morbid Anatomic and Bacteriologic Features of Case of Acute Gangrenous Cholecystitis. W. G. List, Gallipolis, Ohio.
7. Advantages of a Museum in the Education of Medical Students. D. Hunter McAlpin, New York City.
8. Classification for Pathologic Museums. H. C. Gillam and L. Hektoen, Chicago.
9. Animal Pathology in Relation to Public Health. D. E. Salmon, Washington, D. C.
10. Tenia Flavopunctata, with Exhibition of Complete Specimen. Frederick A. Packard, *Philadelphia.*
11. Pathologic Formation of Corpus Luteum Tissue. Leo Loeb, Chicago.
12. Report of Case of Mixed Tumor of Kidney (Adeno-cysto-myxo-angio-rhabdo-myo-sarcoma). W. T. Howard, Jr., Cleveland, Ohio.
13. Report of Case of Angiosarcoma of Right Cerebral Hemisphere. Rogers G. Perkins, Cleveland, Ohio.
14. Tumors of Intercarotid Gland. W. L. Bierring, Iowa City, Iowa.
15. Demonstration of Gross Lesions of Nervous System. W. G. Spiller, Philadelphia.
16. Histopathology of Tubal Pregnancy. Maxmilian Herzog, Chicago.
17. Demonstration of Photographs Illustrating Mental Diseases. J. W. Blackburn, Washington, D. C.

ATLANTIC CITY MEETING



THE special adaptability of Atlantic City for conventions is attributable to several very important facts. First, the weather during the Summer months is cool, and saline breezes from off the ocean are refreshing and delightful, when at other points it is sultry, stifling and altogether objectionable to large gatherings. Second, the spacious auditoriums, at the immediate disposal of large meetings, together with numerous and closely located hotel accommodation, are within so convenient a radius that personal communication may be had, at all hours, without loss of time or inconvenience to those who may desire to visit one or more of the various Section Meetings of the convention asembled.

ATLANTIC CITY'S ADVANTAGES.

As a meeting place for the AMERICAN MEDICAL ASSOCIATION, June 5-8, Atlantic City has, unquestionably, more advantages, socially and otherwise, than any other prominent point at which this worthy body could select to convene. The magnificent Boardwalk, directly upon which are the leading hotels, within a few moment's walk of the great Marine Hall, under the roof of which the main convention will assemble, affords the pleasure of passing to and from the various hostelries along the ocean front at an elevation such that the eye may cover the vast expanse of waters and the beautiful horizon in the distance, with the fresh breezes ever blowing from off the ocean. The Marine Hall, a thousand feet from shore, and directly over the sea waves, is one of the most modern and spacious auditoriums upon the American Continent. The seating capacity of the building is adequate, and the acoustics are of the very best. Visitors can see and hear from every portion of the vast hall, above and below, without the least inconvenience, whatsoever. The design of the great upper circles, provided with the latest and most convenient folding seats, is as perfect as art and mechanism can produce, and the entrances and exits are superb. While the roar of the breakers and surf may be heard for a considerable distance from the strand, there is absolutely not the least sound of the sea reaching the auditorium of the Marine Hall, and ordinary addresses may be heard at every portion of the building as distinctly as at any inland room.

ARRANGEMENTS.

The Committee of Arrangements, together with the various hotel proprietors, has spared no pains to make this particular meeting an event in the annals of the city. Every conceivable plan to enhance the pleasure and comfort of the guests has been resorted to, and it is expected that not a moment's time will be lost, between business and recreation. It will be understood, however, that, although the Amusement and other Committees are prepared to entertain the visitors and their families in every conceivable manner, there will be no program of festivities during Convention or Section Meeting hours, to disturb the general and important routine of business. Everything is expected to give way to the all-absorbing object of the Association's Convention, which has been scheduled, that business and recreation may be delightfully interwoven during the brief sojourn of the members at the City-by-the-Sea.

HOTELS.

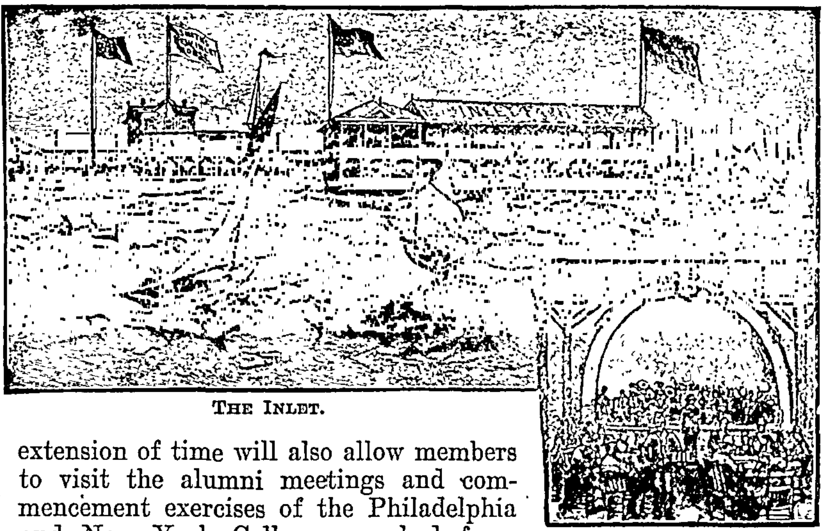
All hotels, halls and places of meeting are connected by phone, and an established ten-cent coach-fare will permit of easy access from point to point, where the Boardwalk is not used for passing from one ocean-front hotel to another.

TRANSPORTATION.

In the matter of transportation the Committee has arranged a one-and-one-third fare for the round-trip, to and from Atlantic City, covering any point of country from which members of the Association may desire to come. The following communication will lucidly explain; the particulars of which it might be well for members wishing to avail themselves of the opportunity to note as to the necessary names and data herein shown.

1. Tickets will be sold on *certificate* plan from May 30 to June 7, inclusive, for one fare and one-third for round trip. *A first-class one-way ticket, together with a properly filled certificate*, must be obtained at the starting-point.
2. The properly filled certificate—not a receipt—must be presented to Dr. W. Blair Stewart and the special agent on either June 6, 7, or 8, to be countersigned. This countersigned certificate will purchase a return ticket for one-third of one full fare, when presented to the proper offices here. Return ticket will be good up to and including June 23.
3. This reduced rate is good only where the fare one way amounts to 75 cents or over.
4. Any one neglecting to obtain the proper certificate at the starting-point or neglecting to have it countersigned on June 6, 7, or 8, will *positively be refused a return ticket except at full fare.*

With an extension of time, from May 30 to June 23, and the Convention proper closing on June 8, members can, if time and inclination warrant, remain at Atlantic City for a stated time, can visit Philadelphia the following week, during the National Republican Convention, or elsewhere before returning to their homes. The



The Inlet.

extension of time will also allow members to visit the alumni meetings and commencement exercises of the Philadelphia and New York Colleges, reached from Atlantic City by short railroad travel over the most modern tracks and in the most luxurious coaches of any railroad in America or on the European Continent.

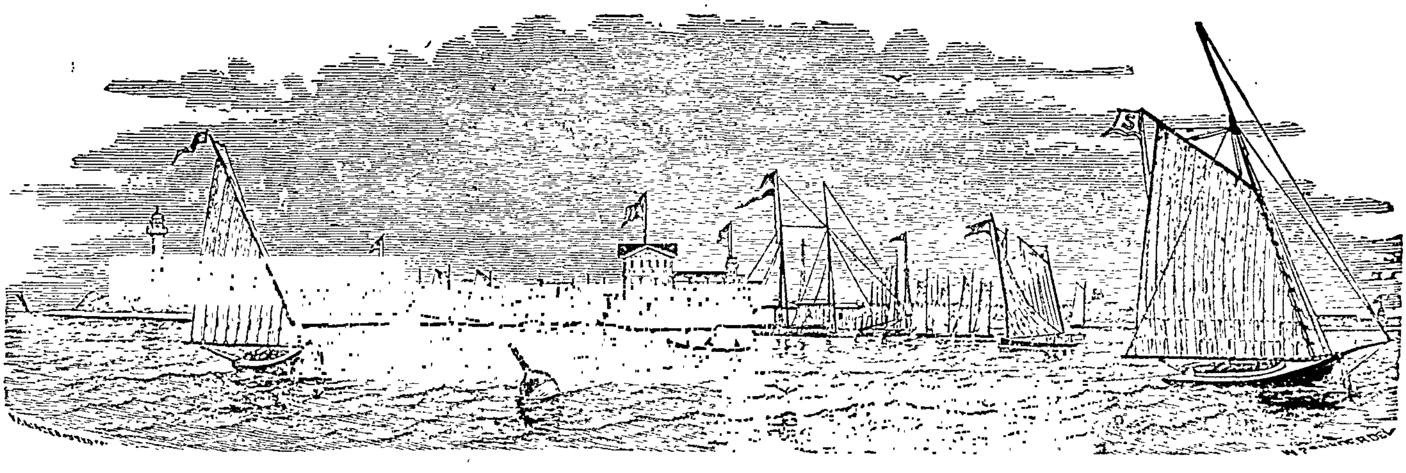
ACCOMMODATIONS.

In the matter of hotel accommodation too much can not be said for Atlantic City. There is not to-day, at any one American resort, so many hotels, boarding cottages, and boarding-houses, as at Atlantic City. There is not at any other seaside resort a finer class of ocean-front hotels than are to be found at Atlantic City. They are spacious and elaborate, replete with every modern improvement and convenience, and are conducted by men of life-long experience. They are specially designed and built for comfort and sea observation, with broad and lengthy verandas for promenade and seating conveniences, and which, during the winter months are enclosed in glass casings, forming perfect sun parlors, from which the sight of the beauties of a winter storm upon the ocean may be enjoyed, as from the artificially heated apartment of a palatial home. At Atantic City there is to be found none of the "flunkeyism" and "home-made tape" that abounds, alas, at too many resorts of the upper ten. The guests are charged, at a fixed price, for accommodation, and are provided with the most elaborate indoor amusement. Here the guest arrives at a plain, spacious railway station, where he may select his hotel coach, without hearing the least "barking" from the vehicle stand, quietly enter his carriage and be driven to his hotel, where he finds comfort from the moment he sets foot within the portals of the establishment. "Polite service" is the motto of Atlantic City's hotels, and from the moment he registers he feels at home, and something like the freedom of the City of London to some distinguished ambassador permeates his whole system, and as he proudly passes from the luxurious dining-halls of his hotel to the Boardwalk, where delightful breezes fan his erstwhile heated brow, he carries with him a happy consciousness that he is as good as any other man—possibly a bit better.

Atlantic City can house and accommodate one million of persons. Outside the immediate Cottage Colony, where a large number of the leading business men and gentry of New York, Philadelphia, and other large cities reside during the summer months, almost every cottage is a boarding one, where at reduced rates the great overflow of humanity, at the busiest seasons, find excellent accommodation for long or short periods. There are absolutely and strictly first-class hostelries where luxury abounds to any extent, and there are hotels of less pretense, still first-class and most admirably conducted. There are still hotels of a lesser degree of accommodation at prices commensurate with the purses of their patrons, all of which are conducted with the utmost degree of civility and cleanliness. The hotel rates vary, of course, according to location and accommodation, and all are operated under the most exacting rules and regulations of municipal government.

HOSTELRIES.

There are more than a hundred really first-class hotels within ten or twelve squares' walk of the great Marine Hall, reached by the Boardwalk and its spacious avenues approaching the ocean. Two great telephone systems, with more than seventy-five miles of call wire, connect with every hotel, and easy-riding coaches transfer passengers from any point of the city to the convention hall for ten cents each. There are also trolley and automobile facilities of the latest and up-to-date convenience, and all at a regulated and low rate of fare. The hotels of Atlantic City are most elaborate and spacious, and are conducted by men of unquestionable experience and the hospitality and entertainment extended their guests are prominent among the features of the resort. Prices range from the very lowest resort charges known to but moderate ones for strictly first-class accommodation.



Yachting at Inlet.

Iron Pier.

AMUSEMENT.

In the matter of diversity of amusement and pastime much has been arranged by the Committee for the recreation of the members and families of the A. M. A. between the hours of scientific meetings. The program of entertainment includes musicales at hotels, pier parties, short excursions by trolley, theatrical and musical evenings, and various Boardwalk entertainments that can not fail to impress the visitor with the fact that his trip to Atlantic City will be fraught with business and pleasure combined.

SCHEDULE OF RATES.

Appended are some of the most prominent hotels, for which the following rates have been handed the Committee on Entertainment:

		Rates Per Day.	
Name.	Capacity.	Single.	Double.
Albemarle	350	$2.50	$4.00
Atglen	200	2.00	3.00—$3.50
Avon Inn	200	2.50—3.50	4.00— 6.00
Brexton	300	2.50	4.00
Brighton	300	3.50—6.00	8.00—12.00
Berkley	300	3.00	5.00
Belmont	300	3.00	5.00
Bleak House	300	3.00—5.00	5.00— 6.00
Boscobel	150	2.50	4.00
Cornell Inn	200	2.00	6.00
Chalfonte	250	3.00—4.00	6.00— 7.00
Canfield	50	2.00	4.00
Colonial	80	2.50	5.00
Dennis	425	3.00—5.00	6.00—10.00
DeVille	300	2.50—3.00	5.00— 6.00
Edison	50	2.00	3.50
Garden	300	3.00—5.00	5.00— 8.00
Grand Atlantic	600	3.00	6.00
Glaslyn	300	3.00	5.00
Holmhurst	300	3.00	5.00
Haddon Hall	450	3.00—5.00	6.00—10.00
Hotel Esmond	150	2.00—3.50	4.00— 6.00
Irvington	200	2.00	4.00
Imperial	300	2.50—3.00	4.00— 6.00
Iroquois	250	2.50—3.00	5.00— 6.00
Lelande	250	2.50	4.50
Laurence	200	2.00—3.50	4.00— 6.00
Loraine	250	3.00	5.00
Luray	400	3.00 up	6.00 up
LaBelle Inn	125	2.00—2.50	4.00— 5.00
Morton	250	2.00—3.00	4.00— 6.00
States Villa	65	2.50—3.00	4.00— 5.00
Majestic	250	2.50—3.00	4.00— 5.00
New England	350	3.00	5.00
Oriental	150	3.00	5.00
Ponce de Leon	300	2.50—3.00	5.00— 6.00
Pennhurst	150	2.50—3.00	5.00— 6.00
Pierrepont	350	3.00—4.00	5.00— 6.00
Raleigh	300	2.50	4.00
Raymond	125	2.00	4.00
Runnymede	200	2.50	4.00
Revere	100	2.50	5.00
Roman	100	3.00—5.00	6.00— 8.00
Rudolf	600	3.00—4.00	8.00
Richmond	290	2.50	4.00
Royal Palace	500	3.50 up	7.00 up
Sea Bright	100	2.00—2.50	4.00— 5.00
Shelburne	350	3.00—4.00	6.00— 7.00
St. Charles	325	3.50	6.00
Senate	250	3.00	5.00
Strand	250	2.50	5.00
Seaside House	300	3.00—4.00	6.00— 8.00
Scarborough	250	3.00	5.00
Stickney	150	2.00	3.50
Traymore	450	3.50—5.00	7.00—10.00
Westminster	200	2.50	4.00
Wiltshire	300	2.50	4.00
Windsor	300	3.50 up	7.00 up

CHELSEA.

Board walk connects with Meeting Hall.

Chelsea	500	4.00	7.00
Gladstone	300	3.00—7.00	5.00—10.00
Ravenroyd	85	2.00	4.00
St. John	125	3.00	6.00
Savoy	300	3.00—4.00	6.00— 7.00

ATLANTIC CITY, N. J.

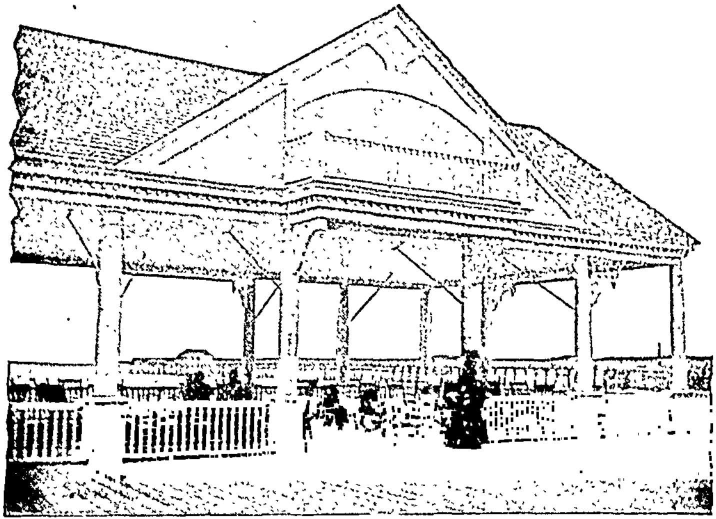
The event of the meeting of the American Medical Association at Atlantic City, on June 5-8, has, upon the part of the Committee of Arrangements, suggested a few facts pertaining to the early history and present advantages of this favorite resort. "Truth is stranger than fiction," and it may well be said that the story of Atlantic City's birth, growth and present greatness reads like a romance.

Within the recollection of the man but scarcely past the meridian of life, Absecon Island, upon which now stands the city, with its palatial hotels and residences, its magnificent municipal government, and its finished modern improvements, existed as a desolate isle, upon whose barren sands and dreary coast washed the billows of the Atlantic Ocean, and over which screeched the seabird, and through whose sage grass and scraggy underbrush ran the proverbial New Jersey jack-rabbit.

Atlantic City was founded in 1854, but lay more or less dormant until after the Civil War. The scant patronage during the late '50s and the early '60s consisted principally of aquatic sportsmen and the few others who cared to make a pilgrimage across barren sands and the wooded tracts of South Jersey.

At this epoch Cape May and Long Branch had been fully established as seaside resorts along this portion of the Atlantic coast, with transportation facilities, which, if not up to those of to-day, were quite in keeping with other railroad branches leading to the sea. In the face of this opposition men of grit and determination set out to plant the banner of success on Absecon Island. No pioneer ever set foot upon a more dreary-looking surrounding than did the original developers of Atlantic City. But they buckled on the armor of pluck, and with the sword of enterprise started boldly forth to meet the foe, and with a rapidity almost unknown in the annals of improvement, a city rose before the world that has astonished beholders, and that now, but a third of a century since actual improvement began, has reached a point of perfection and prominence that places it side by side with the best-known and leading resorts of the Old World, and certainly far ahead of any other seaside resort on the American Continent.

Not only is Atlantic City the most delightful spot for summer recreation, the Eden of our Coast, the one oasis of the erstwhile New Jersey barren desert, but it is positively a health-giving winter resort. The bare idea two or three decades ago of spending a winter season



A Boardwalk Pavilion.

at the seashore would have stamped the author of the proposition as a fit candidate for a madhouse, and sent imaginary tremors down the spinal column of humanity. In fact, half a century ago, or less, few persons cared to visit the ocean, excepting for a brief sojourn. It was not a popular resort beyond the extreme heated periods, and even then the few who did make the pilgrimage were more or less frightened to enter the billows without firmly grasping safety ropes and under the closest care of a bathing-master. The sea was not popular with the masses. The bone and sinew of humanity, those people who always make up the successful element of railroad support, preferred the green hills and running rills of nearby country resorts. Hence special inducements had to be resorted to. Social organizations and clubs of various sorts were induced to visit Atlantic City, which brought the advantages of the beautiful climate before the people. With this came faith in the future of the resort, and this faith brought enterprising capitalists, who built modern hotels, and great railroad projectors spanned the barren sands and wild, wooded country with modern facilities of travel, and with this easy access to the sea came to Atlantic City an entirely different class of visitors. Large tracts of ocean frontage were purchased by outside capitalists, and these were platted out, sold, and built upon by other newcomers, and a strong municipal government was established, with absolute protection to man and property that has never diminished nor been allowed to border on demoralization.

The hospitality of Atlantic City is proverbial. The liberal manner in which the authorities and citizens welcome large bodies of individuals in conventions assembled within her gates, the sanitary and roomy hotels, cottages and boarding-houses to be found for the comfort and convenience of guests are perhaps unequaled by the most famous seaside resorts of Europe.

CLIMATIC FEATURES.

Nature, here, is the great physician. The saline atmosphere of Southern California mingles with the balmy breezes of the Adriatic. The chilling blasts of inland winters, with lasting snows, blizzards and almost unbearable temperature are things unknown to Atlantic City. It is in close proximity to the Gulf Stream, which, curiously as it may seem, sheds its glorious influences over but one spot along the American Coast without material change, and that one particular environ is Atlantic City. The undercurrents of the ocean between the two outer borders of Absecon Island—Egg Harbor and Absecon Inlet—are positively a revelation in sea temperature. Bathing at Alantic City begins earlier and continues longer than at any other seaside resort along the northern coast of the United States, and in this respect equals, so far as comparison can be made, the famous resorts along the Pacific Slope, with an advantage over any of these in the absolute safety of bathers who are not too over-daring in their amphibious sport.

The month of June, in the early part of which the American Medical Association will honor this resort with its Convention, is the most delightful portion of all the year. All traces of the lingering winter have passed, and mid-summer with its mid-day sun-rays has not yet arrived. The days are balmy and the evenings of a medium temperature that no pen can depict. The evening sky, as the sun sinks in the western horizon, is a picture worthy the brush of a master artist, and as twilight approaches, the foamy billows, breaking over velvet sands almost beneath the feet of the Boardwalk pedestrian with their weird and fascinating roar, are among the most pleasant associations of the visitor's sojourn at the City-by-the-Sea.

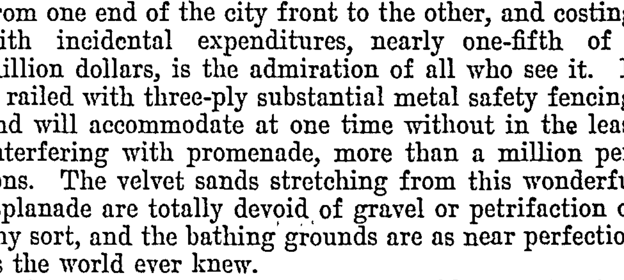
PROMENADES AND STREETS.

The grand, forty-foot wide, steel Boardwalk, reaching from one end of the city front to the other, and costing, with incidental expenditures, nearly one-fifth of a million dollars, is the admiration of all who see it. It it railed with three-ply substantial metal safety fencing, and will accommodate at one time without in the least interfering with promenade, more than a million persons. The velvet sands stretching from this wonderful esplanade are totally devoid of gravel or petrifaction of any sort, and the bathing grounds are as near perfection as the world ever knew.

The streets and avenues are thoroughly macadamized and the pavements are broad, and handsomely laid in cement and flagstone. Magnificent lawns and catchy architecture predominate throughout the better resident portions of the city, and improved driveways extend from end to end of the island, a distance of about seven miles.

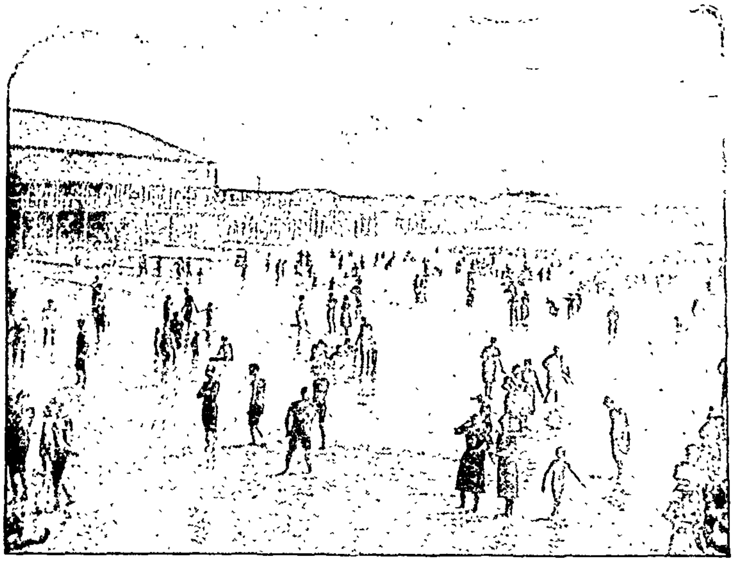
THE CONVENTION HALL.

The great Marine Hall, in which the Convention proper, upon the occasion of the assembling of the American Medical Association at Atlantic City, will meet, is nearly a thousand feet outside the Boardwalk



A Bathing Scene.

and directly over the ocean, with a broad and elegant promenade extending two thousand eight hundred and eighty feet into the ocean, at the outer end of which is a three-story pagoda, each floor reached by broad and easy approaches, with seating accommodation for upward of a thousand guests, and where the most delightful view of the far ocean with distant vessels and a kaleidescope of marine beauty can be obtained, rivaled at no other spot along the American Coast. There are four beautiful ocean piers, upon which hourly attractions are provided, consisting of the choice professional talent of the Union, and upon which tens of thousands of delighted visitors are seen at all hours of the day and evening. The most attractive bands of music are programmed for concerts of the highest order of excellence, and a continual series of festivities are kept up day and evening.



Young's Pier.

The practically ceaseless, indefatigable working of the Committee and the citizens of Atlantic City to welcome the members and friends of the American Medical Association promises to eclipse anything ever attempted at a public resort. Every amusement and attraction within the city limits will be prepared for their entertainment and, figuratively speaking, the freedom of the city will be presented to each and every member.

The Committee of Arrangements has most carefully selected from among the leading hotels, including the ocean front and immediate vicinity of the Convention Hall, a list of hostelries with suitable prices, and with such other arrangements for fishing, sailing, crabbing parties and carriage drives as the extensive facilities of the city afford.

RAILWAY SERVICE.

The luxurious railway service from New York and Philadelphia, with close connection and without change of coach from the great cities and tracks of the East, West, North and South, reflect the highest credit upon both the Pennsylvania and Reading Trunk Railway Systems. The New Yorker can reach Atlantic City in three hours, and the Philadelphian in less than sixty minutes. Pittsburgers can eat a late breakfast at their own homes and sit down to supper, ten or eleven hours later to the music of the billows at this, the Queen seaside resort of America. Washingtonians can reach her balmy realms in from four to four and a half hours, and the Bostonian in ten pleasant hours' ride. In twenty-nine hours the Chicago lover of sea air and heaven's ozone can reach this paradise of health and resort, and so on with other cities East, West, North and South.

The Boardwalk.

In the matter of transportation to and from Atlantic City, the most important arrangements have been completed with the various railroads of the land. Heretofore excursion rates have been confined to a ten-day limit, in which case far-off visitors have not been allowed time to make the round trip with any degree of satisfaction. But, in this particular case, the Committee announces with much pleasure that a liberal extension of time has been obtained, and which it is believed, will prove to be one of the leading features of the far-off pilgrims' journey to the Mecca of ocean resorts. It must be remembered that at Philadelphia, a short hour's ride from Atlantic City, the National Republican Convention will meet on the 15th of June, at which point and date the returning voyager may remain until a late hour on that date before taking his seat in the railway carriage conveying him to his home.

In closing, a word should be added as to the facility for reaching Atlantic City from Philadelphia, New York and elsewhere. Until within the past two years it has been absolutely necessary for passengers from outside the State of New Jersey to cross the river by ferryboat, necessitating a tiresome transfer through Philadelphia, with the possibility of delay and re-booking—inconveniences that bordered upon horror for certain guests in their journeys from distant points. But this has been entirely obviated by the completion, as a portion of the great Pennsylvania Railroad, of a magnificent bridge, spanning the Delaware, over which trains from New York and Philadelphia convey passengers directly from all points.

OCEAN SPORTS.

The sailing fleet, stationed at the inlet, consists of the finest craft that ever plied in and about the waters of a resort. The guest of Atlantic City may here enjoy an inland sail where a spanking breeze

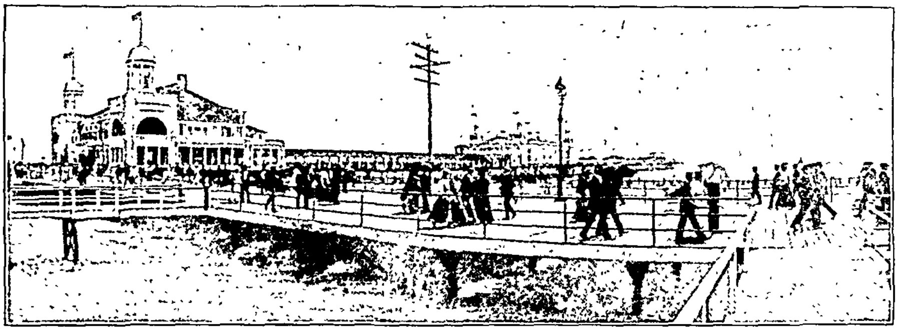
ATLANTIC CITY, N.J.
WHERE YOU CAN PLAY GOLF EVERY DAY IN THE YEAR
THE SCENE OF GOLFING CONTESTS BETWEEN THE MOST SKILLFUL PLAYERS IN THE COUNTRY
THE HOME OF THE COUNTRY CLUB OF ATLANTIC CITY
18 HOLE COURSE IN FINEST CONDITION
HANDSOMELY AND MODERNLY EQUIPPED

The Country Club.

from off old ocean affords all the pleasure of sea sailing without the obnoxious effect of sea sickn[illegible] pass through the Inlet and ride the bill[illegible] [illegible]antic Ocean, with an exit and entry that i[illegible]utely safe. and all under the masterly direction of [illegible] experienced and licensed helmsman, who knows every inch of the surroundings. The lover of piscatorial sport can, at this resort, enjoy himself to his heart's content. The fishing banks, so-called, are so near to Atlantic City, that one can eat a moderately early breakfast at his hotel, be transported to the fishing grounds, enjoy several hours of this grand sport, and return in time for dinner with fish galore. Every variety of sea fish common to the Eastern Atlantic coast is here taken in unusually large quantities, and the hook-and-line fishing from off the piers is particularly good at times.

Several lines of steamers ply between Atlantic City and the adjoining seaside resorts, leaving each end of the island hourly, and are in direct connection with the trolley cars at either point. The Western Union Telegraph Company maintains a direct connection with New York and Philadelphia from seventeen of the leading hotels, together with a complete ticker service in each of these points, as well as on the piers and throughout the city, furnishing a brief of the stock market and the current events of the day. Two excellent telephone lines are in operation, as well as the two national telegraphic corporations doing business, the year round.

There are twenty-two churches, including all denominations and creeds. There are seven elegant schoolhouses with large and airy rooms and supplied with the latest seating facilities, under the immediate direction of an efficient principal and well-selected teachers. The streets are paved with the best material; the municipal authorities of Atlantic City are composed of the cream of its business citizens; and its police force is known the country over, as among the best and most efficient of any seaside resort on earth. The fire department is one of the finest to be found in a city of its size in America; and a better stock of horses, or more elaborate apparatus could scarcely be found anywhere.



Steel Pier from Boardwalk.

THE GOLF LINKS.

One of the crowning features of Atlantic City's environs is the magnificent home of the Country Club, with its elegant golf grounds. The links have eighteen holes, overlooking Lake's Bay, and are in close proximity, with a five-mile-wide meadow where game is plentiful. In the picturesque distance the ocean and variegated horizon make a glorious silhouette to the east, while the western wildwood and evergreen pine give the surroundings a most delightful appearance. This club has recently been entered as an associate member of the U. S. G. A., and the new honor bestowed upon it gives it free voting privileges, and places it side by side with the best clubs extant. As there are but about twenty or thirty clubs members of the association, this the greater adds to the honor of the present agreeable alliance.

COMING MEETINGS.

As a convention Mecca Atlantic City is making for herself a proud record. Among the many gatherings booked for the present season of 1900, at this writing, are the following:

May 12—Diocesan Convention of the Protestant Episcopal Church of New Jersey.

May 18—General Conference of the Methodist Protestant Church, National.

May 27—Ancient Order of Hibernians, State Convention.

June 1, 2—Congress of State and Provincial Boards of Health of North America.

June 1, 2—Baltimore & Ohio Association of Railway Surgeons.

June 1-4—American Academy of Medicine.

June 4—American Medical Publishers' Association.

June 4—National Confederation of State Medical Examiners and Licensing Boards.

June 4—New Jersey Medical Association.

June 4—The Association of American Medical Colleges.

June 5—American Medical Association, National.

June —United States Brewers' Association, National.

July 11—B. P. O. Elks, Grand Lodge.

July —Billposters' Association of the United States and Canada.

August —National Fraternal Congress.

August 2, 3—Reunion Knights of Columbus.

September —State Firemen's Relief Association.

October 16-20—Supreme Grand Commandery, Knights of Malta.

August 23—National United Post Office Clerks' Association.

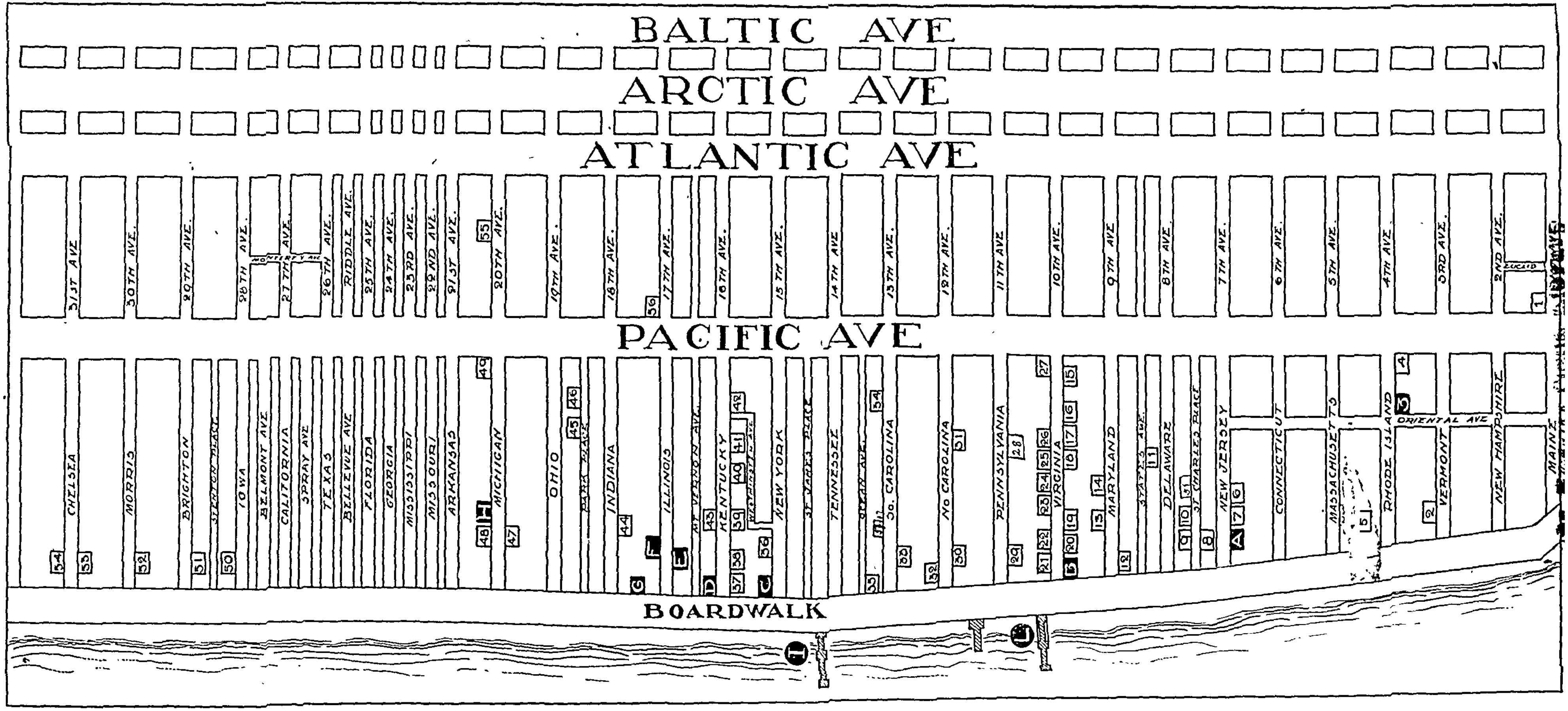
AMERICAN MEDICAL ASSOCIATION RECEPTION COMMITTEE

James D. Southwick, Chairman. John C. Benson, Secretary.

Clement J. Adams.
Harold F. Adams.
James M. Aikman.
Harry Bacharach.
W. M. Barnes.
Francis W. Bennett.
S. D. Bickle.
Francisco M. Bolton.
Charles J. Brownley.
Benjamin D. Coley, Jr.
James K. Carmack.
E. C. Chew.
Franklin P. Cook.
Albert Darnell.
William Edgar Darnell.
Michael A. Devine.
Thomas J. Dickerson.
William B. Dill.
Walter E. Edge.
George P. Eldredge.
Allen B. Endicott.
Charles Evans.
John H. Fleming.
Charles C. Fortner.
John J. Gardner.
John H. Grover.
Brinckle Gummey.
John W. Hackney.
John F. Hall.
Clinton K. Harris.
William C. Hawley.
Alfred M. Heston.
J. Addison Joy.
H. R. Lawrence.
Henry W. Leeds.
Alfred C. McClellan.
William H. McCormick.
Philip Marvel.
Emery Marvel.
Samuel P. Morris.
Charles R. Myers.
Daniel W. Myers.
Jacob C. Myers.
James North.
R. D. A. Parrott.
William [illegible] Jr.
[illegible]
S. S. [illegible]
William M[illegible].
Charles C. Raith.
William F. Ridgeway.
Max Riebenach.
Lewis G. Salmon.
Harry S. Scull.
M. Seddinger.
Earnest W. Shackelford.
William F. Shaw.
Clifton C. Shinn.
Mortimer P. Shoemaker.
William M. Simpson.
James W. Snowball.
Lewis R. Souder.
Ferd Stadler.
Robert E. Stephany.
W. Blair Stewart.
Joseph Thompson.
Harry F. Tietjen.
Harry S. Wallace.
Charles E. Wagner.
J. Bart Webster.
John S. Westcott.
William C. Westcott.
Allan White.
Josiah White.
Harry Wooton.
Stuart Wyeth.
C. B. Young.

ASSEMBLY HALLS—HEADQUARTERS EXECUTIVE COMMITTEE—HOTEL DENNIS

State Medicine—Pennhurst Hotel, *H* Surgery and Anatomy—Steel Pier—Ball Room, *L* Physiology and Dietetics—Islesworth Hotel, *B* Diseases of Children—Academy of Music, Laryngology and Otology—Traynore Hotel, *F* Stomatology—Senate Hotel, *3* Cutaneous Diseases and Surgery—Rudolph Hotel—*A* Ophthalmology—Windsor Hotel, *E* Practice of Medicine—Steel Pier—Music Hall, *L* Neurology and Medical Jurisprudence—Brighton Casino, *G* General Assembly—Young's Pier—Main Hall, *I* Obstetrics and Diseases of Women—Steel Pier—Casino Hall, *L* Materia Medica—Pharmacy and Therapeutics—Luray Hotel, *D*



REFERENCE OF CHART—LETTERS REPRESENT HALLS AND HOTELS WHERE MEETINGS ARE HELD. FIGURES (NUMERALS) REPRESENT HOTELS

1. Royal Palace.
2. Oriental.
3. The Senate.
4. The Seabright.
5. The Lelande.
6. The Brexton.
7. The Pierrepont.
A. The Rudolph.
8. The St. Charles.
9. The Loraine
10. The Raleigh.
11. States Villa.
12. The Laurence.
13. Scarborough.
14. The Imperial.
15. The Canfield.
16. Grand Atlantic.
17. Avon Inn.
18. Cornell Inn.
19. The Majestic.
20. Ponce de Leon.
B. Islesworth.
21. The Irvington.
22. Wiltshire.
23. The Strand.
24. The Morton.
25. The Raymond.
26. The Belmont.
27. The Albemarle.
28. The Holmeshurst.
29. The Seaside.
30. Haddon Hall.
31. The Colonial.
32. The Chalfonte.
33. New England.
34. La Belle Inn.
35. Bleak House.
36. Hotel Esmond.
C. Academy of Music.
37. Berkeley.
38. The Stickney.
39. Hotel DeVille.
40. Runnymede.
41. Boscobel.
42. Westminster.
43. Richmond.
D. The Luray.
E. The Windsor.
F. The Traymore.
G. Brighton Casino.
44. The Brighton.
45. The Glaslyn.
46. The Revere.
47. The Dennis.
48. The Shelburne.
H. The Pennhurst.
49. The Edison.
50. The Gladstone.
51. Hotel Chelsea.
52. Ravenroyd.
53. The Savoy.
54. St. John's.
55. The Atglen.
56. The Garden.
I. Young's Pier.
L. Steel Pier.
57. Iroquois.
58. Roman.